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AUGUST 1954

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SEPT. 6-9 IN PORTLAND, ORE.—page 29**

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American FORESTS

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COVER • *Famed Yosemite National Park—Vernal Falls and Nevada Falls from Glacier Point, California, a stop on AFA's Conservation Caravan.*

THE AFA

The American Forestry Association, publishers of *AMERICAN FORESTS*, is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and their part in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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Letters

For Safe Rodent Control

EDITOR:

I have read with considerable interest, as well as with considerable concern, the article "Breaking Nature's Code" by Arthur W. Priaulx in the May issue of *AMERICAN FORESTS*. I am extremely gratified that there appears to be developed a method of seeding young conifers from the air, which is both effective and economical. On the other hand, I am greatly concerned about the dangers of poison grain for rodent control. For example, if it is effective in controlling the rodents which would otherwise devour the seed that you want to grow, what effect is it going to have on other predators that prey on these rodents? In other words, what effect will it have on the balance of wildlife in this area or are these areas so small that in a few years' time they will be spread by migration of the normal forms of life in this area?

Along with this is the question of what effect poison grain will have on the bird life of this area, for although it is not specifically stated in this article that this grain will be poisonous to bird life, I am assuming that it is, inasmuch as some allusions have been made to the fact that many of the tree seeds were consumed by birds. To be effective, I would assume that the grain would be poisonous to most of the seed-eating birds frequenting this area, so that their population would be greatly reduced if they are not completely eradicated. What then will be the later effect on the balance of wildlife and what particularly will be the effect on the insect population of these areas with the removal of the majority of the seed-eating birds? Bearing in mind, of course, that most species of seed-eating birds prey to some extent on insects, vice-versa.

Please do not misunderstand me, I am not adverse to poisoned grains for this purpose, but inquire if a sufficient study has been made of the expected and unexpected results, so that we are sure that we are not getting into serious difficulties.

Clayton M. Hoff

Executive Vice-President
Brandywine Valley Association
Wilmington, Delaware

(Editor's Note—As Mr. Priaulx pointed out in his article, West Coast foresters give A. W. Moore, of the U. S. Fish and Wildlife Service in Oregon, credit for making the greatest single contribution in this program in searching for safe and sane methods of controlling rodents without danger to bird and animal life. In response to Reader Hoff's inquiry, Mr. Priaulx writes "... The poisoned grain is colored green because birds eat by sense of sight and will not take artificially-colored food. There is no record in the long years of experimenting of any birds having been killed by rodenticides. They are a very selective poison and birds just can't take enough of this poisoned food to do them any harm. They have even been force fed in testing labs without killing effect. There is no record of secondary poisoning from the poisoning of rodents. In other words, there has never been found a coyote or other animal which has been killed by eating a poisoned

mouse. Most wildlife experts know that animals will not eat another dead animal. They can catch and kill all they need. . . To repeat, these poisons are very selective and have been developed by experts for the control of specific rodents. That is the job for which they were invented and that is the job they do, no other.")

Crossup on the Crossties?

EDITOR:

. . . In E. John Long's article, "Nothing Better Yet," in the April issue of AMERICAN FORESTS, one should not be led to believe that mere treatment of a crosstie with chemicals is directly responsible for increasing its mechanical life nor that the average life of treated ties is "30 years or better." A green tie will contain as much or more water per cubic foot than is attributed to the whole tie, averaging about 3.75 cubic feet. There are no wood preserving cylinders 200 feet long. Crossties are treated by a process which employs initial air pressure and not initial vacuum. The process employing initial vacuum does not "draw off any remaining moisture in the wood." Each tie absorbs about eight pounds of the treating fluid per cubic foot or about 30 pounds per tie and "cook" is hardly the word.

J. A. Vaughan

Director of Research

Southern Wood Preserving Company
Atlanta, Georgia

(Editor's Note—In re-reading Mr. Long's article all the way through we do not believe that he left the impression that toxic chemicals are *directly* responsible for increasing the mechanical life of a tie. The statement about the average life of treated ties as "30 years or better" is from a report presented at the annual meeting of the American Railway Engineering Association in Chicago in 1953. Mr. Long's figures on green ties were taken from a special report of the Association of American Railroads which also vouches for wood treating tanks 200 feet long. The association also provided the description used on the method of treating crossties in these tanks.)

Springtime in Middlebury

EDITOR:

. . . I have just read Viola White's diary, "Springtime in Middlebury," published in your May issue. It is most charming and delightful. There is hope for the country in these chaotic times when a publication will present an article so poetic and soul-satisfying. It was really beautiful.

Mrs. Charles J. Kurtz
Columbus, Ohio

Conservation Award

EDITOR:

I read with surprise an announcement that the Izaak Walton League, the National Park Association, the National Wildlife Federation, and the Wildlife Management Institute have joined to make a special award for "conservation" to a member of Congress in this election year.

It is especially surprising to find this award goes to Rep. Lee Metcalf of Montana, the author of a bill that would lay the foundation for construction of a dam inundating almost the entire western slope of Glacier National Park, destroying one of the most beautiful wilderness areas in North America, including 10,000 acres of

(Turn to page 59)



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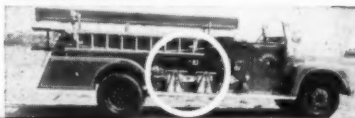
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Chief M. F. Brookshin,
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Lookout

By ALBERT C. HALL

FORESTRY APPROPRIATIONS FOR EACH OF THE MAJOR BUREAUS and agencies engaged in public land management or in assistance and guidance to the states have finally been approved at amounts greater than were originally anticipated when the budget requests were first announced. The U. S. Forest Service, for example, has received \$1.3 million more than was included in the budget request. Although this looks like a considerable reduction from the 1954 expenditures, part of the difference is accounted for by the \$4.5 million 1954 supplemental appropriation to cover the costs of fighting forest fires. As in previous years, the appropriation for 1955 includes just \$6 million for this purpose—a checkbook account to meet fire fighting costs as they arise. This figure will be increased, as needed, through supplemental appropriations. Another item, included in 1954 but not in 1955, is \$5 million for access roads for timber salvage operations in northern Idaho and Montana. But there is now before the House Appropriations Committee a supplemental request for 1955 for \$6.5 million for timber access roads. When these two items are considered, the total figure for the Forest Service for 1955 is about the same as that for 1954.

CONTROL OF FOREST PESTS, AN ITEM FORMERLY CARRIED IN THE BUDGET and in the appropriations under the Bureau of Entomology and the Bureau of Plant Industry is now, following a reorganization of the Department of Agriculture, the direct responsibility of the Forest Service. An attempt was made to throw the entire responsibility and more of the expenditures to the states for white pine blister rust control on state and private lands; but both the House and Senate moved to restore the cuts, at least in part.

LAND ACQUISITION FOR NATIONAL FORESTS, a limited activity in 1954, and one completely eliminated from the 1955 budget request, was enlarged in the 1955 program as passed by the Congress to permit the Forest Service to acquire lands within present forest boundaries for the purpose of blocking up federal ownership.

STATE AND PRIVATE FORESTRY COOPERATION IN 1955 will be carried at the same level as in 1954, despite budget attempts to eliminate the activity of the federal government in reforestation and forest management assistance programs. The complete elimination was apparently too drastic. The Congress restored the full 1954 amounts, and brought the funds for cooperative forest fire control up to the previous level.

IN THE DEPARTMENT OF THE INTERIOR, FORESTRY FUNDS, except for timber access roads for the Oregon and California revested grant lands, were provided in line with budget requests. In the case of the O & C access roads, \$2.5 million was approved instead of the \$3 million requested. The House had written into the appropriations bill a provision for deducting the cost of access roads from gross receipts before revenues were shared with the counties. In the final conference report this provision was removed.

TENNESSEE VALLEY AUTHORITY'S RESOURCE DEVELOPMENT PROGRAM was finally approved at \$1 million, of which \$600,000 is to be derived from TVA operations. The House Appropriations Committee had attempted to eliminate any appropriation of "new money" for this activity and had proposed that the entire resource development program be borne by proceeds from operations. In the past, this activity had been carried on a 50-50 basis.

FORESTRY APPROPRIATIONS FOR THE FISCAL YEAR 1955

U. S. DEPARTMENT OF AGRICULTURE	1954 Funds	1955 Budget	Public Law 437
Forest Service			
National Forest Protection & Mgt.			
Resource protection & use	\$ 29,288,300	\$ 28,280,000	\$ 28,990,200
Resource development	1,385,000	655,000	1,300,000
Additional flood prevention	288,400	.....	200,000
Fighting Forest Fires	10,500,000 ^a	6,000,000	6,000,000
Control of Forest Pests			
White pine blister rust	2,986,354	2,430,000	2,570,000 ^b
Forest pest control act	2,300,000	2,585,000	2,367,500
Forest Research			
Forest and Range	2,898,794	3,094,630	3,104,630
Forest protection	1,042,704	1,242,704	1,242,704
Forest products	1,231,318	1,231,318	1,231,318
Forest resources	939,848	959,848	959,848
Forest Roads and Trails	14,498,000	16,000,000	16,000,000 ^c
Timber Salvage (Ida. & Mont.)	5,000,000	.....	.....
Acquisition			
Weeks Act	75,000	.....	125,000 ^d
Special Acts	.....	.....	10,000 ^e
State and Private Cooperation			
Fire Control	9,449,500	8,968,300	9,449,500
Tree Planting	447,061	.....	447,061
Forest Mgt. & Processing	632,429	.....	632,429
General Forestry Assistance	154,700	154,700	154,700
Transfers to Extension	109,018	See Extension	
Cooperative Range Improvements	531,000	281,000	400,000
Total Annual & Definite Approp.	\$ 83,757,426	\$ 71,882,500	\$ 75,184,890
Indefinite Appropriations	29,341,352	29,485,587	29,485,587
TOTAL FOREST SERVICE^f	\$113,098,778	\$101,368,087	\$104,670,477
Soil Conservation Service			
Watershed protection	\$ 5,000,000	\$ 5,000,000	\$ 5,500,000 ^g
Flood prevention	6,982,000	5,739,000	7,282,000 ^h
			Public Law 465
U. S. DEPARTMENT OF THE INTERIOR			
Bureau of Land Management			
Management of Lands and Resources			
Forestry	\$ 2,507,500	\$ 2,623,540	\$ 2,623,540
Other	8,975,500	9,001,460	9,287,460
<i>Total lands and resources</i>	<i>\$ 11,483,000</i>	<i>\$ 11,625,000</i>	<i>\$ 11,913,000</i>
Access Roads (O & C Lands)	2,000,000	3,000,000	2,500,000
Range Improvements	374,654	400,000	400,000
<i>Total Bureau of Land Management</i>	<i>\$ 13,857,654</i>	<i>\$ 15,025,000</i>	<i>\$ 14,813,000</i>
Bureau of Indian Affairs			
Forest and Range	2,178,584	2,085,000	2,085,000
Fire Suppression	140,000	140,000	140,000
Maintenance, Roads and Trails	2,020,000	2,020,000	2,270,000
Construction, Roads and Trails	5,293,725	2,897,000	2,897,000 ⁱ
National Park Service			
Forestry and Fire Control	653,400	639,000	639,000
Roads	4,238,000	4,350,000	4,350,000
			Public Law 428
TENNESSEE VALLEY AUTHORITY			
Resource Development	1,262,000	1,280,000	1,000,000 ^j

^a Includes \$4,500,000 in Third Supplemental Appropriation.

^b Includes \$560,000 for Department of the Interior; \$590,000 for coordination and direction; \$1,455,000 for control on national forests; \$165,000 for control on state and private lands.

^c An additional \$6,500,000 is being sought in a supplemental request.

^d Includes \$50,000 for purchase of Indian lands near Chippewa National Forest.

^e From receipts on Caches National Forest in Utah.

^f Total Forest Service now includes functions formerly provided for under Agricultural Marketing Act, Bureau of Entomology, Bureau of Plant Industry, Control of Forest Pests, and Soil Conservation Service, in 1954 amounting to \$6,861,000, which for comparison purposes is included here in the 1954 funds.

^g Includes \$400,000 (in budget) for Forest Service.

^h Includes \$600,000 (in budget) for Forest Service.

ⁱ An additional \$3,900,000 is being sought in a supplemental request.

^j Includes \$600,000 to be derived from TVA operations.

Members Show Record Response in Referendum on AFA's Program

For Forestry—Here Are Some Sample Comments on Initial Returns

PROGRAM "ELATES" SCHENCK

From Lindenfels, Germany, Dr. C. A. Schenck, pioneer American forester, writes "... I have been reading and re-reading with real elation your proposed new Program for American Forestry. Without wishing to flatter you, this document is as concise as any piece or parcel of American literature known to me. ... It contains the best eight pages, in my opinion, which were ever produced by any American writer. Who is the author?"

(The "author" of this program, of course, was the group of resources experts—33 strong—that gathered at Higgins Lake, Michigan, in June a year ago to write the first draft, the representatives of the American public who further refined it at the Fourth American Forest Congress in October of the same year, and finally, the loyal members of the AFA who, with their votes still being counted, have apparently adopted it by an overwhelming majority.—The Editor.)

OTHER COMMENTS

"... I have read and studied practically all of the Proposed Program, and as an American and retired civil engineer, I am proud of the entire study you have made. ..."

Z. Rungee, San Diego, Calif.

"... I suggest that they reopen the CCC in order that the youth of today know, study and work to appreciate our forests. ..."

Mrs. Jack W. Westover, West Los Angeles, Calif.

"... For instance, in cases where forest lands have been bought for public improvements and thus withdrawn from the taxable basis, we have favored giving the owner of the land so taken other forest lands in return. In such cases, lands withdrawn from local taxation would be exchanged for other public lands, which had hitherto not been taxed. Such a policy, it seems to me, is sound and I think it would be consistent with such a policy to suggest other sources of revenue, when we

advocate decreasing taxable property, to implement our program. ..."

Don B. Goodloe, Washington, D. C.

"... It seems to me that a congressional committee would be unlikely to be qualified to make such a survey or have the time to devote to it. How about a qualified group to advise Congress? (For example, a committee of state conservation directors.) ..."

John Tillinghast, Madison, W. Va.



Member Edward Woolman, Haverford, Penn., sent in photos of white pine and tulip poplar stands to "show you I am trying to practice what you preach."



"... Omit entire section I. A congressional study at this time is likely to lead to turning over valuable public forest lands to irresponsible private owners."

Shirley W. Allen, Ann Arbor, Mich.

"... This ballot and any program of The American Forestry Association is still new to me. There is a lot for me to learn. But reading the proposed program gives me a feeling of something very great and very important to all concerned. I feel very

hopeless as of now. There is so much to be accomplished, and there is nothing I have as yet done.

Lucille Aschembrenner, Cleveland, Ohio

"... 'Desirable pattern' may mean dissection of the national forests or exchange of national forest timberlands for devastated fee patented lands or both. Too much research in proportion to planting; increase plant threefold if more research is attempted. ..."

Harry R. Kallander, White River, Ariz.

"... I would like to see some real tough legislation to deal with those who cause forest fires, or contribute to them, through wilful negligence. I do not mean the accidental fires that might happen to anyone. I mean the failure to put out campfires, cigarette stubs, etc., things could be prevented with ordinary common sense. ..."

Lenore James, Asheville, N. C.

"... I am willing to approve this but want to urge some restraint in public acquisition of lands, since most of it should still be owned by private citizens. ..."

Colin C. Locke, Bergheim, Texas

"... I do not approve the exploitation of our forests in Alaska by Japanese or for Japan. I strongly oppose it. ..."

Richard A. May, Saluda, Va.

"... We need a greater consistency in the administration of the public lands in the realm of multiple use. Certain people at the field level administering public domain are still in a pure sawlog economy. This is not always necessary. ..."

John R. Langenbach, Silver Spring, Md.

"... Of such an apparently complete program thought out by experts for forestry control and betterment, what can a mere layman do but approve! ..."

Isabel F. Furbank, Washington, D. C.

EDITORIAL

An Industrial Revolution With Roots

First Georgia port of call for a visitor interested in forestry should be the office of Governor Herman Talmadge. His views, refreshingly free of platitudes for a public official, are based on a practical knowledge of forestry as a farmer and landowner. He has been a farmer-forester since his service in World War II when he bought up all the forest land he could afford in the belief that Georgia pines represented the best possible security for his family. Right now, on his own farm, he's trying to solve the southwide forestry problem of what to do about scrub hardwoods that promptly take over on much cutover land. "It's a tough one, but we'll whip it," is the Governor's characteristic comment.

Forestry has advanced rapidly in Georgia during Talmadge's governorship. The state's forestry budget now tops \$2 million. State Forester Guyton DeLoach concurs when the Governor reports that slowly but surely Georgia is licking its fire problem, with most of the state now under some form of organized protection. Last year Georgia's nurseries turned out 100 million seedlings, 90 percent of which were planted on abandoned farm land and 10 percent on cutover woodlands. The state's newest nursery at Glenwood's Horse-shoe Bend Farm has 40 million seedlings. This nursery, the Governor says, will enable his state to hike its planting program to a whopping 125 million seedlings this year.

Talmadge's faith in the future of South's pine trees is limitless. He believes Georgia is going to be one of the richest states in the Union, with trees a chief factor in the rejuvenation. Cotton, of course, is still an important cash crop to many Georgia farmers, but not on the previous scale. "King Cotton" has gradually been migrating west while more and more western cattle are appearing on Georgia "rangelands" to graze on the state's rich Coastal Bermuda grass. Trees and cattle loom large in the South's scheme of things. Georgians say income from all wood products—bolts, ties, furniture, paper and all the rest—will one day represent an industry worth a billion and a half dollars annually to their state.

A little high, you say? It would have seemed so 30 years ago, Georgia businessmen admit. But today what many Americans don't seem to realize is that the South is experiencing an epic industrial revolution. Last year Georgia harvested 2,500,000,000 feet of lumber to lead the South. Some 2,500,000 cords were pine pulpwood. Income of Georgia timberland owners is now

pegged at \$170,000,000 a year and the figure keeps going up.

All this progress doesn't begin and end in Southern State Houses, of course. The truth is that public agencies, industry, business, banks and to some extent the public itself have entered into a sort of Grand Alliance to attract new wood and other industries to the South and to make every acre work harder to grow more trees faster. As a result, southern states are becoming tremendously forestry conscious. In Atlanta one finds President Erle Cocke, of the Fulton National Bank, spearheading a revolutionary program whereby Georgia bankers purchased hundreds of tree-planting machines for the use of the state's landowners. They're all talking forestry in Georgia, and what's more doing something about it—bankers like Miller R. Bell, of Milledgeville; Henry S. Cohen, of Moultrie; Ralph Perry, James A. Peterson and James Gillis, of Soperton; and Hugh Gurley and A. M. Ferguson, at Thomasville. The same is true of such men as Hugh W. Dobbs, of the Georgia Power Company, who is also president of the active Georgia Forestry Association, and E. S. Center, of the Georgia Railroad.

What puzzles the visitor is why doesn't the rest of the country know more about this southern progress? True, many fine agencies are working hard on this very problem—and with a degree of success—but the fact remains that too many people today still think of the South in terms of "Gone With the Wind" when actually the only wind southerners are interested in is the one that keeps blowing more and more industry and business into what has now become a powerful and new Southern Industrial Empire.

Recalling that it was AFA's "Dixie Crusaders" of several decades ago that helped the South hit the comeback trail in controlling and preventing disastrous forest fires, The American Forestry Association today is anxious to assist in the job of telling the American public what is going on in the Southland. As a starter in activating its new Program for American Forestry with its accent on forest land management, the AFA can think of no finer project than a comprehensive study and report to the American public on the advancement of southern forestry state by state. This study has now been started. Three field trips have already been made. And in future months the American public is going to be hearing more and more about this new epic of our times—this new industrial revolution with roots.

They're saying the best place to find a good
Colorado farm is in eastern Kansas as . . .

By BOB LLOYD

THE DUST BLOW



AGAIN



A scene of desolation in Morton county, north and west of Elkhart, Kansas
Soil Conservation Service photo

Secretary of Agriculture Ezra Taft Benson as he toured drought area in Texas
Associated Press photo



THERE are resolute people in the southern Great Plains country who know the drought never completely ends. In some places the crops grow tall and cattle graze on good pasture. Then there is a long dry spell, followed by rains and splotches of prairie brighten with a new green—for a while.

"Dry spell" has been a common term now for three years on the Great Plains' parched lands. But the February and March black blizzards in six hard-hit drought states spelled disaster. First was the lack of moisture, then heat, and finally the winds, creating a 1954 Dust Bowl covering more than 16 million acres of land in Texas, New Mexico, Colorado, Kansas, Nebraska and Oklahoma. Its total value in destruction unestimable.

Dry? A Springfield, Colo., man said it was so dry even the jack rabbits were carrying water buckets with them on prairie hops.

The spring rains came, beating down the heat, and critical drought conditions remain only in the evaporated areas of Colorado and New Mexico. But experts agree the greatest drought in U.S. history has not been broken, and under study in all areas are permanent methods of preventing erosion of soils by shearing winds. A \$15 million grant was made by the federal government to alleviate the six states.

Three months ago, Mother Nature, with all her fury, unleashed high winds. And dust clouds billowed over the Plains. Wind erosion scooped out two great dust bowls: one in west Texas and New Mexico and one in southwestern Kansas and southeastern Colorado. Rains fell in April and May, but have fallen only off and on since. Colorado and New Mexico still are critical. Agriculture experts in Oklahoma declare the drought there is broken. Texas, Kansas and Nebraska report vast improvement from spring rains. Above average rainfall over most of the west Texas plains since April helped, and few old-timers now are complaining.

How did the "dust bowl" come into existence? According to some authorities, it in part was created by the insistent demand for wheat during World War I when millions of acres of land, better suited to grass and livestock production, were converted to wheat. During the drought of the 1930s, these areas became desert lands.

Farmers, ranchers and conservationists lately have focused attention on southeastern Colorado, now in its fourth year of drought, where the extent of agricultural disaster continued to grow even in June. Estimates of inflicted damage mount in the southeastern Colorado bowl consisting of seven counties—Baca, Bent,

Cheyenne, Lincoln, Kiowa, Prowers and Crowley. They contain 4871 farms and ranches, with a total acreage of 8.1 million. Crop land amounts to three million acres, and in some of these counties as much as 96 percent of the wheat has been blown out of the ground or buried under piles of silt. Initial estimate of destruction to the winter wheat was well over \$16 million. In addition, grasshoppers, crop insects and shortage of irrigation water have been added to the state's drought woes.

It appears row crops planted on dry-land fields in Colorado's bowl after the May rains now are lost. These listed crops, principally grain sorghums, have been blown out or silted over, especially at Lamar, Colo., in Prowers county, Eads in Kiowa county and Springfield in Baca county. June's high, hot winds sapped the deficient surface moisture from the soil and cooked the tender grass.

Man-made dust clouds rise in some of these sections as farm machines dig under the topsoil, and the region reflects a gaudy picture of brown, gray and green. The blown-out wheat lands are naked, showing where still no conservation tillage has been done. The soil texture is finer than powder. In some sections there is no binding organic matter in the soil. When the wind blows, so

moves the dirt, eventually magnifying itself into a large cloud, heading north to southwestern Nebraska.

Wind, heat and dust again in June added another painful blow to Colorado's bowl. The farmer, depending on rains to cool the broiling sun and sprout crops, had to stop planting maize. The wheat that was up needed warm weather to throw off the many diseases and grow strong.

The southeastern Colorado residents did as they had many times before. They closed their houses, turned on the fans or air conditioners and rode out the storm. These winds, as the others, whipped up the dirt. At Holly, Colo., during the first week of June, the wind brought in a dust cloud from the south, cutting visibility to a few feet in places. Farmers at Eads, Colo., one Sunday afternoon suffered additional losses. Clouds of dust were whirled by a southwest wind. By nightfall, many said their row crops on sandy soil were destroyed.

How do farmers and ranchers in this Colorado bowl size up the situation? R. M. McMillin, Lamar, Colo., cattle rancher examined a dry-land section east of Lamar where grass was showing. He pointed to a stretch that had a different color—pale green—than the range lands around it. "That was blown-out wheat land in the '30s," he said. "It's taken all

this time trying to come back to grass."

Clifton L. Etter, Lamar, U.S. area conservationist, observed: "People are not moving from the country as was the case in the 1930s. Some land has changed operators which may be attributable to conditions, but little or no land is lying idle for want of people to operate it. Thus far, at least, there has not been any appreciable land abandonment."

Range and fields in Prowers and Kiowa counties appear more green than neighboring Cheyenne and Lincoln counties. Etter said there are vast areas where there is no connection between the surface moisture and sub-soil moisture.

In the Kiowa county critical area, about 30 percent of the wheat farms are owned by nonresidents. "When blowing starts, they are not here to do anything about it—so we have to eat their dirt," said L. C. Bowen, who operates a 20-section ranch of 12,800 acres 22 miles northeast of Eads. "Every acre of cultivated land in this county will have to be put back to grass if soil blowing is to be stopped."

Since the '30s dust bowl, a vast amount of Kiowa acreage, much unsuited to cultivating, has been plowed for wheat production. About 225,000 acres were seeded in 1953; only 4900 acres were planted to



Planting old cultivated field to grasses has stopped the soil blowing on this cattle ranch northeast of Big Spring, Texas, owned by Sam F. Buchanan

Soil Conservation Service photo



Associated Press photo

Grader pushes dust drifts and tumbleweeds to side as a clogged road is cleared in southeastern Colorado

wheat in 1942. Some of this land became a serious wind erosion hazard during the past four-year drought.

Bowen has a herd of 400 Herefords, some purebred. Despite the drought, he hasn't had to reduce the herd. "Range grasses have been short, but we have managed to get by," he said. About 1500 acres of Bowen's native grass land have been damaged this year by soil blown from cultivated fields in the vicinity.

Dust storms are not new to Arthur Fritton, who owns and operates a 3500-acre farm 11 miles northeast of Cheyenne Wells, Colo., in the serious soil-blowing sector of Cheyenne county. Coming to the county as a child in 1918, he has operated the farm since 1929 and has a vivid recollection of the '30s sand blizzards.

He doesn't feel the current four-year drought will result in conditions as they were in the former dust bowl period. "We have much more efficient machinery for farming now

than we had a decade ago," he says. "We know a lot more about the techniques for controlling wind erosion."

He says "some old-time farmers in this country became careless during the wet years." While Fritton's wheat crop is excellent, many other fields in the critical area were blown out and the crop lost. Soil blowing on his farm has been confined to a few spots, and if rains come soon and there is no hail nor insect damage, he expects to harvest between 15 to 20 bushels of wheat to the acre.

Snows fell in Cheyenne county in November and December, 1953 and melted in February of 1954. There was no moisture then until early May. Despite the four consecutive drought periods, Fritton hasn't failed to make a crop because of the drought. How? He says he found stubble mulching one of the best assurances of a profitable crop and prevention of soil erosion in this eastern Colorado section. The grass is short

Just the top of a four and one-half foot fence post thrusts through the drifted dust along a southeastern Colorado road



because of the drought, but moisture has been held in the contour furrows and improved the growth.

There may be sound logic in the comments of Sam Midkiff, who is ranching and farming on 5000 acres of land three miles north of First-view, also in Cheyenne county.

"At times I think the best thing to do would be to sell my tractor and plow, scatter grass seed over the plowed land and go to Florida for about three years," he says. "Then maybe the land would go back to grass and we wouldn't have dust storms every time the wind blows."

Midkiff considers growing wheat as too risky where there is a danger of soil blowing. He had 640 acres in wheat in 1952 and 1953. Last fall, he planted wheat and row crops in a strip-crop fashion. Moisture was late in coming so he didn't plant wheat until Nov. 10. He had a fine stand in February. About 24 inches of snow had fallen in November and December, and the thaw came February 3, soaking the soil. He figured he was sure of a good wheat crop, but the severe wind storms February 19 and March 3 ripped the wheat out by the roots. The crop was lost. Now he plans to seed two tracts to feed crops, and part of his land will be planted to Sudan grass to provide fall grazing. He has a grassed waterway to take care of excess rainfall—when it comes.

"Too many farmers don't pay enough attention to their land," he believes. "They run out from town

now and then, do a little something, and then hurry back—this kind of farming isn't helping to solve our problem of blowing dust."

Kenneth Shanks, Pueblo, Colo. conservationist, says the major dust bowl damages in the extreme south-east Colorado counties resulted from lack of moisture. Moisture seems to be a key to the problem. Soil unprotected and without moisture in it easily is whipped into the air by winds.

Shanks said the dusters are not as bad as the early storms of the 1930s, but the situation can worsen rapidly. The '30s storms crept up on the farmers and many never realized the danger until it was too late. Now the situation has changed: the danger has been brought to the people's and government's attention much more rapidly.

As hot winds of June sucked out the surface moisture in southeastern Colorado—the critical area—with the efficiency of a vacuum sweeper, cattlemen were forecasting wholesale liquidation of herds as a result of range destruction and what could be one of the shortest hay crops on Colorado record. Railroads were moving numerous stock cars to loading sidings in eastern Colorado.

"Cattlemen can fight anything except drought," said David G. Rice, Denver, executive secretary of the Colorado Cattlemen's Association. Floyd K. Reed, federal-state agricultural statistician, said Colorado's general crop conditions were "lowest

since the early 1930s" because of the triple punch of heat-winds-drought.

Laurence Phelps, Denver, chief of administration in Colorado's agriculture department, pictured a bleak outlook for Colorado's ranchers and farmers—"unless we get rain and lots of it. . . . The truth is, there is no place you may want to go in Colorado that has normal precipitation. The snowbanks in the mountains almost are gone and we're going to be in trouble for irrigation water this summer. We are, right now, in some parts of the state."

Paul Swisher, Colorado agriculture commissioner, said in some parts of the country farmers have herded cattle into pits along roads seeking feed for the animals.

Southwest Kansas counties hit by the drought and consequent wheat failure were reported in better shape to stand the disaster than they were in the 1932 drought. Loan agents and bankers in the Garden City, Kan., area estimated that less than 10 percent as much farm land is mortgaged as 15 years ago.

Meanwhile, in Lamar, Colo., center of the Colorado bowl, Walter Moyer, Lamar businessman and chamber of commerce member, said: "Local, state and national adverse publicity has done more actual damage than have the windstorms." The soil erosion problem is not denied, he said, but the adverse publicity has pegged the area as having a risk economy.

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Two Colorado ranchers examine grassed waterway on cultivated field which permits excess water—if any—to run off without ruining land



Farmer-rancher Sam Midkiff, left, discusses his soil conservation plans with SCS representative

TARGET—A New Era of Reason In Conservation

This is the goal of Resources for the Future, the ambitious new organization backed by the Ford Foundation, that wants to give resources the same type of boost other foundations gave medicine



Dr. R. G. Gustavson, of Nebraska, who heads Resources for the Future, Inc.

By JAMES B. CRAIG

MOST of us, at one time or another, have idly "wished we had a million dollars" to invest in some worthy cause. You've heard your acquaintances make remarks to that effect. You've probably made them yourself. The thought of having the wherewithal to accomplish much that is worthwhile on a big scale quite properly appeals to the altruistic in all of us. If suddenly presented with the opportunity to invest a million or more dollars in some aspect of the nation's future welfare, your immediate and enthusiastic reply would probably be, "I'd sure like to try it!"

Just the same, you would soon find yourself face to face with a lot of problems—and big ones, too. In ad-

dition to inheriting your millions to manipulate, you'd soon learn that you had also inherited some mighty hefty responsibilities. You would find yourself face to face with a series of tremendous and challenging decisions, some of them global as well as national in scope. And the decisions that you made would be weighed not only by your friends and immediate associates, but by millions of people and in terms of decades and even centuries.

If this aspect of the business had never occurred to you, possibly you would be interested in a recent interview with a man who is charged with the responsibility of investing \$3,410,000 of The Ford Foundation funds in the resources future of the

United States. His name is Dr. R. G. Gustavson, of Nebraska, and he is the president and executive director of Resources for the Future, Inc. The task he faces is a tough one. Briefly, it is to provide the same useful impetus in resources development that other foundations provided in the world of medicine and other fields. Conceivably this development could usher in a new "age of reason" for our whole resources world.

As you will recall, Resources for the Future got off to a somewhat shaky start over a year ago when misunderstandings arose in the minds of some people as to its aims and objectives. Then Dr. Gustavson appeared on the scene after relinquish-

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End of the pine ridge and behind the slope beginning of the mahogany bush



FAMOUS FORESTS

MAHOGANY

By CREIGHTON PEET

IT may surprise you, but the chances are the wood in the Adam side table and the Sheraton chair you inherited from your great-aunt Matilda came from British Honduras in Central America—although both of these mahogany antiques were made in England 150 or more years ago.

Nearly every Central American country produces some mahogany, but the finest pieces, and those used by the now classic British cabinet makers of the 18th and 19th Centuries, came from British Honduras.

It is said that the first mahogany was brought to England by Sir Walter Raleigh, who had used it to repair his ships, and that Queen Elizabeth was so pleased with its appearance, that she had a table made of this wood in 1597. However, Spanish explorers must have imported it earlier, for it was used for desks, doors, and choir stalls in the library of the Escorial, the palace which King Philip II of Spain completed in 1584.

Despite these early uses, it was many years before mahogany became the fashionable wood among the great European cabinet makers—but in the late 1700s and 1800s it was used either in solid pieces, or as a veneer both in England and on the Continent. Soon, too, the fine cabinet makers in New England were

producing today's priceless Colonial antiques at a tremendous rate, with mahogany as a major wood. Even today half of the mahogany exported from British Honduras is shipped to America.

Some have suggested that the reason mahogany, with its warm, reddish glow, became so universally popular in England was that it compensated in some measure for the chill, foggy climate which turns the whole British landscape a lifeless gray for so much of the year. At first a luxury wood synonymous with comfort and fine living, mahogany soon came into great demand generally, so much so in fact, that other woods were often stained to resemble it. Perhaps mahogany was a psychological substitute for central heating which the British scorned for so many years, but it has been equally popular in America where we tend to overheat all our houses.

It isn't right to speak of a mahogany forest, for none exists, as such, and one or two trees per acre is considered a very good stand. Consequently, before logging operations start, an extensive survey must be made to locate trees and chart them on a map. Although the growth in these jungles is very dense, this isn't

too difficult as the mahogany trees are kings of the forest, shooting straight up as high as 150 feet. Trees are usually four or five feet in diameter, but still remembered is a 12-foot giant cut in 1774, which brought the owner the tremendous sum of £500—probably equal to about \$50,000 today.

The jungles where mahogany trees are found are alive with all sorts of animal life—from jaguars, ocelots and peccaries to hummingbirds. Heavy, rope-like vines make progress difficult, and the underbrush grows so rapidly that no trail stays cleared for more than a few days.

In addition to mahogany, these jungles produce cedar in useful quantities, logwood (used to make dyes), rosewood (used for furniture and the bars on xylophones), and the sapodilla tree, which is more important to Americans than you might think from the name, because it produces chicle, which is the base for chewing gum.

Since the base of a mahogany tree is surrounded with immense "buttresses," or twisted roots growing above ground, the woodsmen stand on spring boards wedged into notches out in the tree 10 or 15 feet above the ground. Mahogany is a very dense, heavy wood, which weighs about 53 lbs. a cubic foot when green, and about 25 when dry.



Since the days of Sir Walter Raleigh and Queen Elizabeth the mahogany tree has furnished some of the finest wood that goes into furniture. British Honduras is now our principal source

Harvesting is done in the short dry season (March to May), work being almost impossible at any other time, as some areas have as much as 170 inches of rain a year.

Cut into suitable lengths, the logs are branded with the owner's number, and hauled out by tractor to the nearest road where they are loaded onto trucks. Very green logs will not float, but after they are sufficiently dried, they are sent down-

stream to Belize, the port and principal town in British Honduras. Here the logs are either sawed up into boards, or floated out into the harbor where ships pick them up for shipment to Europe or the U.S.

British Honduras is a small country, with a population of only 70,000 today, and rail transportation has never been a problem, but there are a few small logging railways which penetrate the jungle, one of which

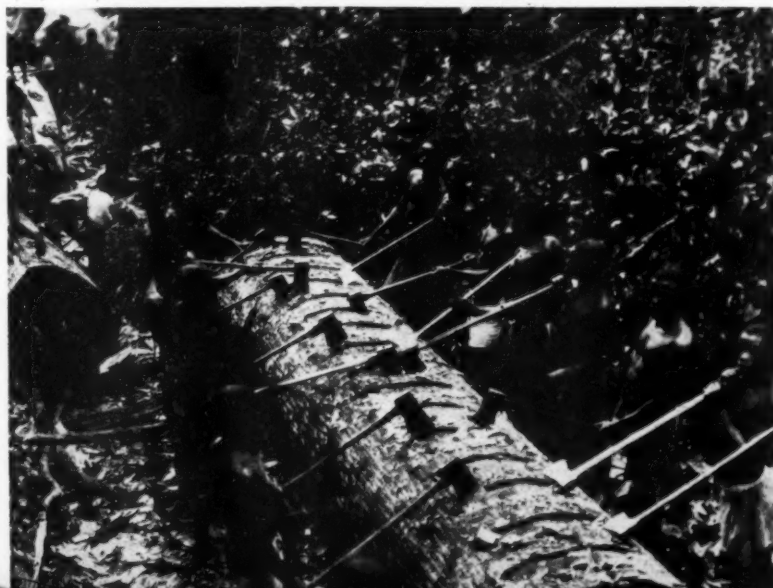
starts at a camp known as Gallón Jug—undoubtedly a haven for early loggers. Many other towns in British Honduras have odd names, also undoubtedly acquired accidentally. There are, for example, Mountain Cow, Butcher Burn, Orange Walk, the Cockscomb Mountains, Honey Camp—and Never Delay!

But while this country is thinly populated today—it is 80 percent forest—it was once occupied by the Mayas who had a very advanced civilization with several great cities and three-quarters of a million people. As wood cutters and tractor drivers forge their way through the dense undergrowth, they frequently stumble over fragments of great stone buildings and statues.

Here, for example, was the city of Lubaantun, now deserted for almost a thousand years, where there were great temples and pyramids, and a vast stadium with stone bleachers for 10,000 spectators. Here also were immense ball courts, one of which had stone walls 27 feet high enclosing a playing area 100 feet wide and several hundred feet long, in which was played what must have been one of the most fantastic games ever invented—*pok-tapok*.

Using only their knees, elbows or hips, the players tried to bounce a small, heavy, solid rubber ball through an iron ring projecting from

British Honduras natives get ready to score a mahogany log preparatory to adzing. This process takes about two minutes



a wall about 12 feet from the ground.

The ring was only about six to eight inches in diameter and the custom was that if any player could accomplish the all but impossible trick he *was entitled to all the clothing and jewelry worn by the spectators.* The result was that the instant the ball went through the ring, all the spectators went tearing off into the underbrush as fast as they could go, pursued by the winning player and his friends. Even pulling up the goal posts would seem to be a tame conclusion to a game, compared to this!

Like many other things, mahogany was discovered while a search was being made for something else, in this case logwood. There is logwood in British Honduras, and it is still exported, but it is not of great consequence, and Raleigh and Cortez and the other explorers quickly realized they had made a more important discovery in mahogany.

In the past two centuries many other mahogany-producing areas have been developed, particularly in Cuba, Santo Domingo, and more re-

cently along the west coast of Africa near the Equator, but British Honduras is still a major producer, shipping out about 700,000 cubic feet of the wood a year. And in years to come it is expected that this area will again be the leading producer, as a reforestation program has been undertaken in which 60 acres are planted exclusively with mahogany each year, and soon this is to be increased to 250 acres a year. In some areas there is a law that for every mahogany tree cut down, two must be planted.

British Honduras has for so many centuries subsisted entirely on a mahogany economy, that it almost starved to death in the depression of the 1930s when nobody in the U.S. was buying furniture—for nobody in British Honduras had ever grown any food: everything had been imported.

Consequently, under the Colonial Development and Welfare Act, Great Britain made extensive efforts to start a local food supply growing and at the same time make sure that

the forestry revenues would be insured. Since mahogany is a comparatively slow-growing wood, large plantings of slash pine were started, to make the economy more stable, and provide income in the near future.

Another forest product from British Honduras which has been important to millions of Americans for several generations has been chicle—the base for chewing gum. This comes from the sapodilla tree, and is actually a sort of inferior rubber. Spanish-Indians called “chicleros” roam the jungles looking for trees, which they tap much as rubber trees are tapped. The latex flows out of long cuts made in the bark, and drips into little bags. After boiling to remove the moisture, the chicle is made into big, bouncy blocks and shipped to the U.S. When chicle was first discovered, attempts were made to use it as rubber, but it was not satisfactory. Due to careless cutting of the sapodilla trees, many of them have died, so that the export of chicle has fallen off in recent years. However, about a million pounds are still shipped to the U.S. every year. Gum manufacturers now use other raw materials.

Mahogany, which is admired for its beautiful markings and its warm, red color, is still used extensively by American furniture makers today, either as solid lumber or as a veneer—a thin sheet of mahogany with a beautiful marking glued onto less perfect mahogany lumber, or some other wood.

In big plants such as that of Ichabod T. Williams & Son, in Cartaret, N. J. (in business since 1838), Honduras mahogany logs are first steamed for around 36 hours in very hot water, and then mounted in a machine with an 18-foot long knife blade, which slices off a sheet of paper-thin veneer about every two seconds. These thin sheets are packed carefully in bundles in the order from which they were cut from the log. This way a manufacturer can buy enough sheets from the same batch, so that the table, sideboard and chairs of a dining room set, will all have the same markings.

Every mahogany log is different, and until it has been “opened up” in a sawmill, no one knows whether its markings will warrant cutting it into veneer. Sometimes half a log (lengthwise) will be cut into veneers, and the less-perfect half into boards. Its like looking for pearls—only fortunately veneer logs occur more frequently than pearls.



Above, foreman explains cutting methods to workman
Below, a worker's hut in midst of the mahogany bush





Secy. of Agri. Ezra Taft Benson presents plaque to T. S. Repplier, president, Advertising Council, as North Carolina State Forester F. H. Claridge, left, and U. S. Forest Service Chief R. E. McArdle watch



THE collective eye of the American public was focused on the office of the Secretary of Agriculture on June 24 when the Advertising Council, Forest Service and the State Foresters unveiled the proposed 1955 Cooperative Forest Fire Prevention Program before a representative cross section of American life.

Consensus was that the new program, the 14th, is "the best yet." Coupled with the official unveiling of next year's fire prevention program was the news as announced by the Forest Service that forest fire prevention campaigns paid off last year with an 18 percent decrease from 1952 in the number of fires. Another highlight of the meeting was the presentation of a bronze plaque by Secretary of Agriculture, Ezra Taft Benson, to representatives of the Advertising Council, Association of State Foresters, and the U. S. Forest Service in appreciation of the work done by these agencies in the

drive to reduce man-caused forest fires.

As usual, the 1955 campaign outlined by Mike Corcoran and Richard Stowe, of Foote, Cone & Belding, is largely built around the celebrated Smokey Bear. However, a key poster in the drive will represent a departure from previous techniques in that it will follow what advertising men call the "before and after" pattern. As suggested by Russell V. Eller, advertising manager of Sun-kist Growers, this poster presents two panels, one a beautiful forest scene and captioned "God gave us this" and a second showing a burned over area captioned "Don't you give us this!" A head and bust of Smokey and his familiar slogan "Remember—

only you can prevent forest fires" appears underneath these two panels.

This poster and other features of the program represent what Henry C. Wehde, Jr., of the Advertising Council, terms an effort, following tried and true advertising techniques, "to get the reader into the ad." Several of the new presentations are of the question and answer variety and represent an effort to make the reader stop and think about the awful havoc that can be caused by one carelessly flipped match or cigarette butt. In general, those attending the conference indicated that the new program represented an excellent change in pace

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The collective eye of the American people last month was focused on the unveiling of the 1955 Cooperative Forest Fire Prevention Program, which is called "the best yet"

SOUTH DAKOTA

Wonderland

By LESLIE G. KENNON

THE publicity men call South Dakota the land of "infinite variety."

Tourists who travel very much will find that it doesn't have quite the variety of places like the Ozarks, Wisconsin, or New York, but it does offer some of the world's finest scenery.

And it's definitely a "shutter bug" paradise! It's also among the nation's least expensive resort areas.

Chief attraction, of course, is the famed Black Hills and Badlands.

They call this area the land "where the west still lives"—and they're right!

It was in these same Black Hills where the white man and Indians last fought; where occurred the last American gold rush; and it was the land of Wild Bill Hickok, Deadwood Dick, and Calamity Jane.

Maybe the "Deadwoods" and Calamity Janes of today don't have stagecoach holdups and Indian wars, but the old west is still very much alive in these parts.

It's one of the few states which can truthfully say it offers the tourist a real western atmosphere in the way most of us think of a western atmosphere.

For scenery, South Dakota can vie with the best of them.

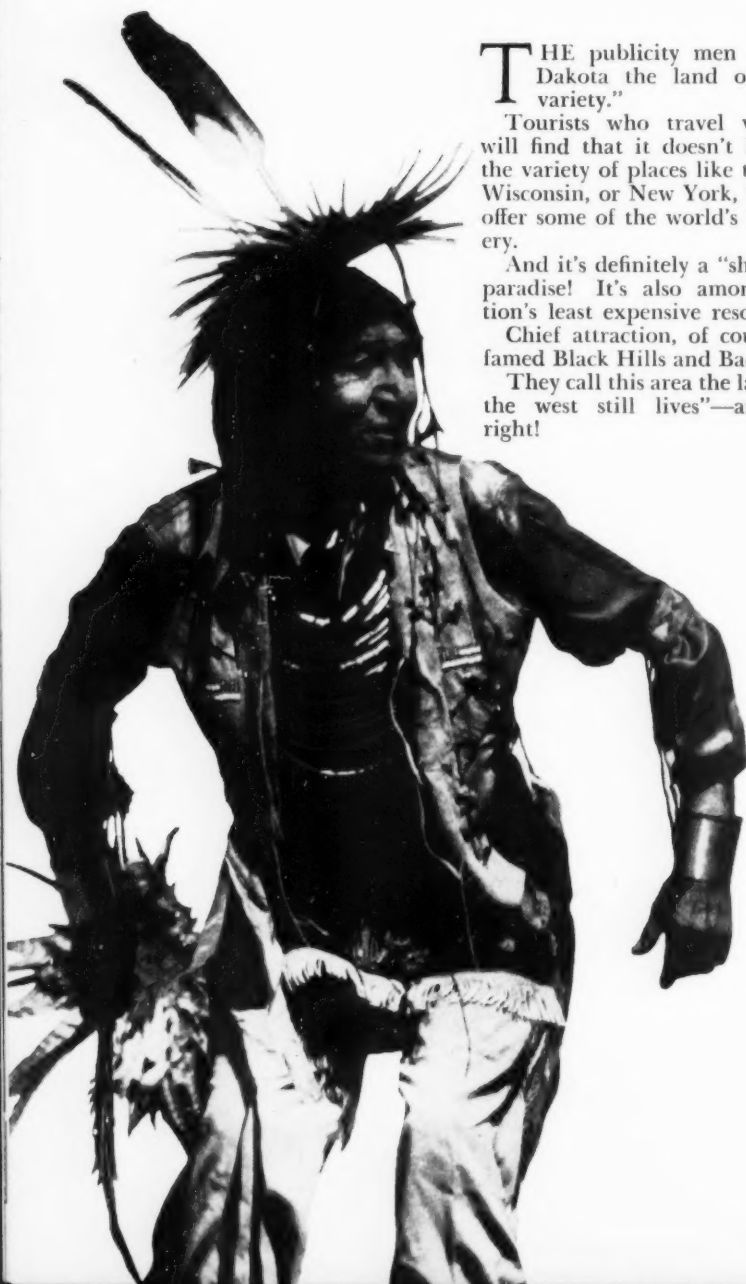
For example, the Black Hills themselves—oldest mountains on the continent—are a never-ending picture of beauty with mile-high lakes, pine-clad peaks, and unusual formations.

One of the more beautiful views is that of the gem-like Sylvan Lake in those Black Hills.

Of course, no tourist would think of passing through South Dakota without taking a gander at Mount Rushmore National Monument.

Some 465 feet tall, this great sculptural achievement preserves the faces of four great Americans—Washington, Jefferson, Theodore Roosevelt and Lincoln—in ageless granite.

These faces, carved by famed sculptor Gutzon Borglum, can be distinguished from 17 miles. Incidentally, to get an idea of the immensity of





Famed Mt. Rushmore National Memorial never fails to awe the tourist

these sculptures, a six-foot-tall man can stand within one of the eyes of these faces.

Tourist facilities in the Black Hills and the Badlands, if you plan a lengthy stay there, are quite reasonable. For example, most motel courts run anywhere from \$2.50 up to \$7, a day but rarely over that.

Many have space for trailers, at

likewise reasonable rates, generally not more than \$1 a night, or \$3.50 a week.

Lying in the Black Hills is one of the largest state parks in the nation, Custer.

This park covers some 128,000 acres and was set aside by alert South Dakota travel officials for the sole purpose of creating a mountain rec-

reational area for the public.

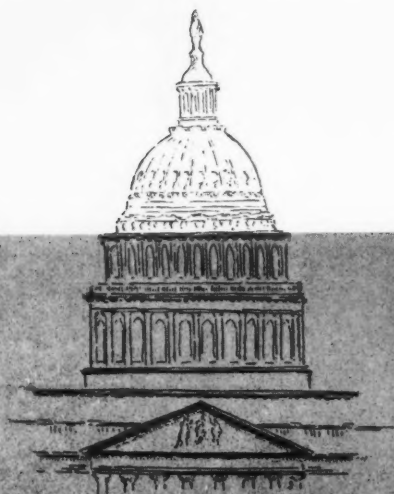
Part of the park is a wild animal sanctuary where you may see hundreds of buffaloes, rare Rocky Mountain goats, elk, deer, Big Horn sheep, and several varieties of other wild animals and birds.

On the south of the state park is Wind Cave National Park, an inter-
(Turn to page 52)

A touch of the "old west" are the bison that graze South Dakota's plains



Man-made erosion has upset a once healthy regimen
and turned Rock Creek into a foul-smelling, sickly
stream that can be cured only by immediate action



Our Capital's Rock Creek Mess

By BERNARD FRANK

IN no place has nature been more bountiful. . . . With its charming drives and walks, its hills and dales, its pleasant valleys and deep ravines, its primeval forests and open fields, its running waters, its rocks clothed with rich ferns and mosses, its repose and tranquillity, its light and shade, its ever-varying shrubbery, its beautiful and extensive views, Rock Creek is possessed with all the features necessary to provide a park worthy of a great people."

It is hard to believe that the foul-smelling, mud-laden, debris-choked watercourse which winds its sickly way from Montgomery County, Maryland, through the nation's capital can be the same stream which Major Michler described in such glowing phrases some 90 years ago. Congress was slow to respond to his recommendation for a park in the bottom of this lovely valley, and only after 14 years of inaction did it authorize the purchase of the necessary lands for a national park.

How bitterly disappointed the Congress of 1890 would have been if they could have seen it in its present state!

Today Rock Creek's waters within the park are unfit for wading—even for fish life. They represent an offense to the nostrils and a lurking source of contagious disease. Accelerated man-made erosion within the District and suburban and rural areas on the upper watershed has upset the once healthy regimen of the

stream and released countless tons of silt into the waters. Formerly stable stream banks are falling in with every rain. Soils once capable of easily absorbing and slowly releasing heavy rainfalls have been needlessly bared, compacted and washed away. Silt pollution has been compounded by the frequent overflows of raw filth from outmoded combinations of storm drains and sanitary sewers, especially in the older areas.

Rock Creek Park occupies 1859 acres in the District and 917 acres in Montgomery County, Maryland. Parts of the park remain in the origi-

nal deciduous forest. The stream bottoms contain river birch, willows, box elder (a species of maple), elm, hornbeam, beech, red maple, bitter-nut hickory, black gum, white ash, black walnut, and tulip tree. The slopes and ridges support Virginia pine, red cedar, various kinds of oaks and hickories, black and pin cherries, sassafras, black locust, butternut, and black gum. The well-formed and highly-useful chestnut was also common until eradicated by the deadly chestnut blight.

Native shrubs and vines include witch hazel, hazelnut, spicebush,

Improperly designed bridges aggravate damages from high flood waters or floating ice as the flood of February 1948 revealed





National Park Service photo

A family utilizes one of the many picnic facilities in the Park

A common sight in the park—even light summer rains find Rock Creek ill-prepared to handle swift runoff from bared surfaces

flowering dogwood, arrowwood, maple-leaved viburnum, black haw, hawthorn, crabapple, wild hydrangea, alder, wild grape, Virginia creeper, greenbrier, blackberry, raspberry, and bittersweet. Also present are the Christmas fern, the coarse sensitive, large interrupted cinnamon, and royal fern, and in damp places the unique horsetail, one of the few remaining representatives of a plant which flourished during the coal age millions of years ago. Many species of colorful, sweet-scented spring, summer and autumn blooming plants enliven the visitor's interest.

Wildlife includes such small nocturnal animals as the gray squirrel, chipmunk, flying squirrel, white-footed mouse, meadow mouse, pine mouse, cottontail rabbit, eastern mole, several species of shrews and bats, and occasionally possums, woodchucks, foxes, raccoons, skunks, minks, weasels, and some harmless snakes.

Most of the nearly 200 species of birds in this region may be seen in the park. Birds that once were very abundant, like the wild turkey, passenger pigeon, ruffed grouse, Carolina parakeet, and dickcissel have disappeared, and the pileated woodpecker has become rare. Mallards and other wild ducks also frequently drop down to rest and feed in the stream.

Responsible for the Montgomery County park lands is the Maryland-National Capital Park and Planning Commission, created by the state to



develop its portion of a comprehensive plan for Metropolitan Washington. This commission acquired 917 acres in Montgomery County (with state and federal funds) and plans to extend the park northward by purchase of an additional 177 acres. A recent report by a firm of consultants on municipal finances extols the county's park program. "While it is obvious that park lands that would otherwise be subject to taxation have been removed from the assessment rolls, the creation of the parks system has added enormously to the value of property adjacent to the parks." This sage observation deserves special mention in view of the

exposure of these very same lands to floods and siltation originating within the county.

Rock Creek's troubles originate on its watershed, and here we must solve them. This 78-square-mile drainage basin extends some 25 miles south-eastward from the outskirts of Laytonsville, a village above Rockville (the county seat of Montgomery County) to the Potomac River near 28th Street, N.W. in the District. Residential and business areas occupy some 23 square miles; parks, 4.3 square miles; and farms and woods, 50.7 square miles.

The upper part of the long, narrow watershed (6.5 miles across at its

widest point) is predominantly pastoral. The wheat fields, pastures and woods of the large beef, dairy and grain farms lend color and pleasing variety to the landscape. Woodlands in parks, private estates and farms occupy some 30 percent of the total area. Most heavily wooded are the immediate valleys of Rock Creek and its larger tributaries well up toward the headwaters. Most of these forested lands—some in splendid old hardwood timber—are destined for obliteration unless present park plans are greatly expanded in response to the swelling need for additional recreation space. Between 1940-1952, for example, the suburban population swelled from 102,500 to 385,000, an increase of over 277 percent. This rise has been accompanied by a sharp decrease in woodland and other undeveloped tracts formerly available for hiking, picnicking, and horseback riding. Since park expansion has proceeded at a snail's pace, and since the existing lands are suffering steady attrition by erosion, stream bank caving, and roads, the parks have been subjected to use well beyond their capacity to support it.

urban and suburban developments. Rain water is drained from the streets into the creek as speedily as possible without thought to the effects upon the capacity of the creek to handle the rushes of water that follow each rain.

Rock Creek's flood record dramatically reflects the happenings on the watershed. From 1933 through 1950, 46 stages, 3.75 feet or higher, were recorded at the stream-gaging station near Sherrill Drive. Only 14 such discharges occurred during the first nine years. During the next nine years, however, (from 1942 through 1950), the number rose to 32. Occasionally, widespread heavy rains can produce floods even on watersheds where the cover is in excellent condition. Such a flood struck the creek on August 24, 1933, following a storm of 8.5 inches. A flood almost as large struck on November 21, 1952, but it took only 5.2 inches of rain—3.3 inches less than in the 1933 flood—to produce it. The widespread exposure of the soils in the suburban and rural areas made this flood much higher—and a great deal muddier—than it otherwise would have been.

16 months ending in November 1953, five overbank flows occurred in an area where new sewers were being constructed in an effort to handle the greatly increased population load.

Directly lessening ability of Rock Creek to handle its flows is the burden of soil washed into it from the surrounding residential and farm areas. Rock Creek is currently receiving an estimated 430 tons of sediment per year from each square mile of its watershed, or 33,540 tons all told. Fifteen years ago the annual rate, based on the more favorable soil conditions of that time, would have amounted to a third as much. At the present rate, one year's soil washed off the land and torn from the banks of the creek would make a pile of dirt over 100 feet long, 100 feet wide, and 100 feet high, or a volume of 41,400 cubic yards.

The effects of sedimentation are not confined to Rock Creek itself. This displaced soil magnifies the cost of maintaining navigation on the Potomac River. The Interstate Commission on the Potomac River Basin says that 135,000 cubic yards of silt are dredged annually from the river between the creek and Hains Point. Rock Creek is unquestionably contributing a large part of its 41,400 cubic yards of silt to this heavy load.

The Interstate Commission blames much of this situation on the metropolitan area. "Developers of new subdivisions in grading their sites, in constructing roadways, water and sewer trenches, and in excavating for buildings give little thought to the erosion which is likely to occur during rainstorms." Large quantities of silt are thus washed into the tide-water streams, filling up navigation channels and destroying aquatic life over the entire stream bed. The Commission concludes that while erosion from such sources cannot completely be prevented, "measures could and should be taken to minimize it."

Great volumes of raw sewage are discharged into Rock Creek intermittently thus preventing its use for wholesome recreation. Twenty-three combined sewers and storm drains overflow into it as far upstream as Lamont Street; at least four sewers discharge into Piney Branch. Offensive sewage particles lodge on shrubs, lawns, and picnic areas during high flows. Sewage pollution has closed all picnic areas from Sherrill Drive south to Military Road for over a year and they will remain closed for months longer until the installation

(Turn to page 44)

Earth piles exposed during building operations are undoubtedly most serious source of storm-runoff and sediment on Rock Creek



Rock Creek and its park rapidly are degenerating for two main reasons. First, neither Montgomery County nor the city of Washington provided additional outdoor play spaces in keeping with residential expansion. Second, the creek and its park are being damaged by ill-advised destruction of topsoil, prolonged exposure of highly erosive subsoil, and indifferent disposal of storm drainage and sewage from

Most of the 32 higher stages during 1942-1950 were small and flashy, typical of watersheds where impervious surfaces or compacted soil prevail. Such soil is unable to take in the water and transmit it into the deeper layers—via tree roots (many of which go nine feet deep or more in this area), animal burrows, etc.—for gentle release to streams many days later. Similarly, the National Capital Parks reports that during the



Aldo Leopold

Priest and Prophet

By ROBERTS MANN

ANYBODY brash enough to attempt an appraisal of Aldo Leopold and his land ethic can appreciate the comment of a flabbergasted cowpoke who, for the first time, had ridden across the Kaibab Plateau to the north rim of the Grand Canyon. After a spell-bound silence he finally drawled: "What a helluva hole!"

Six years have not dimmed the feeling of personal loss which was suffered by everyone who knew Aldo Leopold when we learned of his untimely death on April 21, 1948. His enduring monument is the growing conviction in the hearts of the American people—a change in our philosophy of values; an "internal change in our intellectual emphases, our loyalties, our affections, and our convictions"—that we each have a personal responsibility for the welfare of the land.

The Professor, as we still call him, grew up in Burlington, Iowa, in a lovely home on a bluff overlooking

the Mississippi. A clue to his attitudes and those of the whole Leopold family may be found in the remarkable character of his father, "a pioneer in sportsmanship," and his mother, a noble matriarch. After receiving his M.F. in 1909 from the School of Forestry at Yale, he entered the U.S. Forest Service in the region with headquarters at Albuquerque. By 1924 he was intimately acquainted with all of the national forests in Arizona and New Mexico and had become Chief of Operations. Meanwhile he became more and more engrossed in the need for a rational system of game management, for waterfowl conservation, for erosion control, and for the preservation of wilderness areas. His militant efforts and writings attracted national attention, including that of Theodore Roosevelt.

The upshot of it was that after moving to Madison, Wisconsin, in 1924 to become Associate Director of the Forest Products Laboratory, he kicked over the traces and became Game Consultant for the Sporting Arms and Ammunitions Manufacturers' Institute. "Queer bedfellows," you say? Not at all. This gave him opportunity to make extensive game surveys in eight northcentral states.

In 1932 he took time out to write

his monumental classic: *Game Management*. Its central thesis was that "game can be restored by the creative use of the same tools which have heretofore destroyed it—ax, plow, cow, fire, and gun." The techniques were set forth merely as examples of how to think, observe, deduce and experiment. The subject matter was hung on a framework of "factors" and "influences" depicting the biological forces to be controlled—the mechanism which produces all species on all lands. The details applied to game alone but the principles are of general import to all fields of conservation.

The man was a living question mark: "Why?" A child has the God-given gift of curiosity. An ecologist is one who still has it. A teacher is one who inspires it. Aldo Leopold was both, doubled in spades. He impressed upon me, an engineer fascinated by phenology: "It is more important to know why a species is not present than to know all those that are." Hmmm! Ever kindly and courteous, nevertheless he was a devastating deflator of taxonomists and morphologists who consider their domains as sacred, and the Ph.D. who had "become callous as an undertaker to the mysteries at which he officiates."

In a dilly of an essay, titled, "Song of the Gavilan," he quipped: "There are men charged with the duty of (Turn to page 42)

What Farmers Think of Farm Forestry

By JOHN F. PRESTON

I AM trying to teach a correspondence course in farm forestry through the Graduate School of the U.S. Department of Agriculture. It is a special kind of farm forestry—"wood as a farm crop." The theme of the course is that unless farmers accept wood as a farm crop, forestry on the farm will continue to be the stepchild it has been since the beginning. In my opinion, foresters have made the mistake of trying to make commercial forestry fit into farm economy, and it just does not meet the requirements of the majority of farmers.

Once farmers understand that a wood crop is no more difficult to grow than corn or wheat or meat, and that the income from the woods can supplement and not interfere with the income from other farm crops, the majority of those farmers who own woodland will become potential wood growers or tree farmers.

The trick is to get farmers—to get agriculture—to recognize that wood is a legitimate and a profitable farm crop. That means agricultural education that will establish wood as a farm crop. It means farm forestry education that will break down into the factors that will make forestry a farm activity and wood an acceptable farm crop.

It is obvious that once a farmer has decided to undertake the growing of a wood crop under the rules of farm economy that govern other farm crops, he is receptive to technical direction. The forester is then a welcome visitor because the farmer is anxious to learn how to accomplish his purpose. He wants to learn the simple techniques that will enable him to become his own woods manager.

How far has farm forestry education progressed toward the goal of getting farmers to understand about

growing wood as a farm crop? This is the foundation upon which foresters must build a worthwhile farm forestry structure.

My correspondence course has supplied a few straws in the wind which throw some light on this question. Each student, at the beginning of his course, is asked to interview 10 farmers in his locality who own woodland, and record their answers to six questions. Here are the questions and a summary of the answers separated by states. The states are not identified because the data are not sufficient to be conclusive. The three states where most farmers to date have been interviewed, are compared with other more scattering returns.

Question 1. Do you consider the growing of a wood crop to be a part of your farm business?

In the three states, about 65 percent answered yes; in other words, they did consider wood as a feasible





Two thirds of the farmers answering the author's query said that they did not allow livestock to graze woods—a surprisingly high percentage

farm crop. In other states the answers to this question were disappointingly low.

One farmer replied, "I'm a dairy farmer, not a lumber jack." This reminds me of a personal experience worth telling at this point. Some years ago, I visited a good Scandinavian farmer by the name of Olsen, trying to interest him in managing his woods so as to produce an annual income (one of the first principles of growing wood as a farm crop). He had a well stocked woods capable of producing a substantial annual income. He, too, was a dairy farmer, too busy to give any time to his wood crop.

"Oh," he said, "there will come a buyer soon and I will sell the standing timber to him. That is the best that I can do." I returned about a year later to the same farm. Meanwhile, some better foresters and agri-

culturists than I, had been working on Mr. Olsen. This time, I found him in his woods, with two helpers, cutting poles, piling, and pulpwood. Mr. Olsen recognized me at once. He took great pleasure in showing me his system of marking and the well distributed, thrifty trees he was leaving to grow. "This is wonderful," I said, "but tell me, Mr. Olsen, how did all this happen? Last year, you told me you just didn't have time for woods work." "Yes, I know," said Mr. Olsen, "but you see, Mr. Preston, I found out I could make some money." Evidently, I hadn't

made that point very clear, a year before.

Question 2. Have you investigated the possible returns that you could get from a well managed woods?

At least 70 percent of the farmers interviewed everywhere, admitted that they hadn't investigated the matter. The others said that they had found out the possibilities through sales of forest products.

One farmer said that he read "bulletins and farm magazines," which is encouraging to those who write.

Another who owns a 61-acre woods
(Turn to page 46)

The author's correspondence course throws some light on the question of how many farmers are becoming educated to the fact that wood can be grown as a crop

Your first trip to the Pacific Northwest is, of course, a rare experience. But a return trip can be even more astounding. Either way, you can't miss if you attend AFA's September meeting in Portland



I WENT WEST AGAIN

By NARD JONES

SO you're planning to attend the 1954 annual convention of The American Forestry Association at Portland, Oregon, in September? If so, congratulations!

Because you are going to have the time of your life—and, in my considered belief—you'll see and hear things that literally will take your breath away. And make you feel mighty good about the future of the forests, too!

How long has it been since you saw the Pacific Northwest? I could almost hope that this September will be your first visit. And yet, on second thought and in view of my own experience, a first visit may not be as astounding as a return trip.

How long has it been since, to put it one way, you visited the region that is actually the cradle of the tree farm system in America? How long has it been since you visited, to put it still another way, the region once called "the last, desperate frontier of the lumberman in America?"

Has it been a hundred years? With human longevity as we know it today, that is very nearly a fair question. Certainly it's not beyond possibility that a reader—and perhaps several readers—was (or were) at Port Gamble, Washington, in 1880 when President Rutherford B. Hayes visited a timber operation which at that time was nearly 30 years old.

Today Port Gamble is a quick drive and a short ferry ride from Seattle. But in 1880 it was still quite a trip. The President and his party, which included Mrs. Hayes, and a General Sherman who had—almost two decades before—delivered his opinion on war, arrived in style on the good ship *George E. Star*. Port Gamble went all out. And in return Mrs. Hayes "greeted every child personally, shook hands with every boy and girl."

And only last year Port Gamble celebrated "a century in the timber" when Pope and Talbot, Inc., noted its 100th anniversary at the site of

the west's oldest continuously-run sawmill.

Curiously, and coincidentally, the anniversary was celebrated, as well, by Washington state which became 100 years old in 1953.

So you'll be visiting a region which by the standards of New England, and even of the Midwest and South, is very young. And yet, in its way, and certainly in the measurement of progress, very old indeed.

The patron saint of the whole "Oregon territory"—which in true pioneer days included both Oregon and Washington and parts of Idaho and Montana—is Dr. Marcus Whitman. He is known in history as a missionary and physician; and as a martyr, killed with his wife and his party by hostile Indians at Wailatpu, near Walla Walla. Washington state chose him to represent the commonwealth in the Hall of Statuary, and last summer was unveiled there his heroic figure in bronze. Supreme Court Justice William O. Douglas,

When the late President Franklin D. Roosevelt, touring western Washington in the 1930s, saw the scene at the left he said he hoped "the lumbermen who did this awful thing are roasting in hell." At right, the same spot as it appears today



a native Washingtonian and a graduate of the little eastern Washington college named for Whitman, made the unveiling address in the nation's capital.

But he did not mention that Whitman's first concern was a sawmill, on the bank of the Walla Walla River, there in the early '50s.

And in 1852 the pioneers of Seattle were felling and shaping spar timber on a site known today in the city as "Pioneer Place." In that year Henry Yesler landed. He was a millwright, looking for a spot on which to locate a steam sawmill. He found one. And he made a deal with Carson Boren and Dr. David Maynard for a timber claim with a pan-handle into Elliott Bay. In that bay was plenty of depth for cargo ships—lumber ships.

So in the early '50s, on the bank of the Walla Walla, only a short walk from where it empties into the great Columbia, the River of the West, which goes on westward to find the

Willamette and the city of Portland, was born one phase of the Pacific Northwest forest-using industry.

And, also in the early '50s, west of the Cascades on Puget Sound, Henry Yesler and Carson Boren, and David Maynard were founding another phase of it. In Portland you'll hear and feel the name of Marcus Whitman, and you'll understand the historic surge of the Columbia River. And in Seattle you'll find your way by means of streets named Boren, and Yesler, and Maynard—and many others—all "lumber" streets.

But of course you were not in the far Pacific Northwest in the '50s, although you could have been in the '80s, along with President Hayes.

It's possible you were there in the '20s—and of course we mean the 1920s. That was a primitive time in Pacific Northwest forests. In a way, it was nearly as primitive a time as before the turn of the century, in the forests. We had only begun to "utilize" the whole tree; we had only

begun a true forestry program in the Pacific Northwest.

But at least we had begun. Not everybody understood that, or could see it.

I don't wonder! Times were not the best, and there must be a market for trees—and it must be a good and healthy market—before trees can be preserved.

If that statement makes no sense to you, then you do indeed need to come west in September.

But in those days, in the '20s, we were shipping "squares" to Japan. These "squares" were actually almost whole trees—great Douglasfirs with the tops and boughs stripped off, and the trunk squared up roughly. We sold them cheaply, too cheaply. And the Japanese shipped them back to us—in the form of finished lumber, and sash and doors, and all manner of wooden products.

This, obviously, was not good. It was not good at all. Yet it is a conception of the Pacific Northwest

which many people in the nation captured, and held fast, and which they may still hold today.

But that was more than 30 years ago.

If you haven't been to the Pacific Northwest in three decades, you'd *really* better join The American Forestry caravan in September!

And if, when you get here, you find that you were completely fooled by the Pacific Northwest—that you did not grasp either its natural ability, or the determination of its forestry leaders—there's no need to feel embarrassed.

Men both great and small have been fooled out here.

In the '30s, President Franklin D. Roosevelt visited damsites and timber areas in the Pacific Northwest. He was neither a native of the region, nor a persistent visitor; and he was a man sincerely interested in timber and conservation. So he was, and quite naturally, appalled by some of the things he saw—or believed that he saw.

At one spot in western Washington he viewed some logged-off land, and on very good authority, remarked that he hoped "the lumbermen who did this awful thing are now roasting in hell."

To tell you the absolute truth, I cannot vouch for the present residence of some of those lumbermen. But some of them still live, and I can, if you like, give you their addresses.

But the point is that the area where the late President spoke, no longer looks like the nether regions to which he assigned the timbermen.

Very healthy forests are growing there.

I am not a forester. I am not an economist. Nor am I an historian.

I cannot say, at this moment, who should have the credit. I do not know whether it is Mr. Roosevelt, because of his diatribe; or whether it is the owners of these forest lands; or whether it is blessed nature.

All I know is that very healthy forests are growing there. But what's more important—I know that they will grow there again, to the end of time, if need be.

How do I know this?

Well, for one thing, I left the Pacific Northwest in the summer of 1944 and did not return until the summer of 1953, which is to say, nearly a decade.

I returned to my native region to find young and healthy forests growing where—a short 10 years before—I had seen only stumps, and snags, and underbrush, and the bleak outlines of distant mountains.

I returned to find ancient and dying forests brought to new and useful life by prudent thinning, and modern, enlightened logging, and replanting, and reforestation.

I returned wondering how fared now the spirit of the great botanist whose name is borne by the Douglas-fir. And remained to discover that in the Douglasfir region of the Pacific Northwest there are more than 200 tree farm units embracing over four million acres.

And, from the border of British Columbia to the southern boundary of Oregon I found the signs on the land which told me why this is true. Headquarters of Calapooya Tree Farm. Willamette Valley Tree Farms. Pilot Rock Lumber Company's 65,000-acre Tree Farm. Forest Plantation of the Simpson Logging Company. Sunset Tree Farm of the St. Helens Pulp & Paper Company. Rogue Elk Forest—the Certified Tree Farm of the Elk Lumber Company.

Clatsop Tree Farm of the Crown Zellerbach Corporation.

Signs on the land. These and many more. I wish I had the space to mention all of them that I have seen. And the words to describe the evergreen world behind those signs.

But I returned to even more than this. I went up into the Rainier National Park. I climbed the slopes of Mount Baker. I spent some days in the deeps of the Olympic Peninsula. Let me assure you that everything in those places is just as it was.

And, equally important, I found a healthy timber-using industry which, somehow and some way, had managed to link itself with the general public and with conservation in a way far broader—and deeper—than through payrolls alone.

In fact, I returned to the Pacific Northwest to hear—after 10 years—a leading wood-using industrialist say, in public, and with conviction, that the time was quite near when new forest growth would take care of all the national needs for wood.

And to hear a high official of the same organization, before the American Water Works Association in national convention, aver that forest conservation must—and would—henceforth include the interests of lands, of the fisheries, of recreation, and of agriculture and wildlife.

This indeed is the Pacific Northwest of which we natives used to dream. It is the land to which I have returned, in wonder, after nearly a decade.

It now has lessons to teach to the nation. Of that I am convinced.

And when you come to Oregon and Washington in September you will feel and see these things that I have tried to express here. I hardly know why, but I assure you that you will.





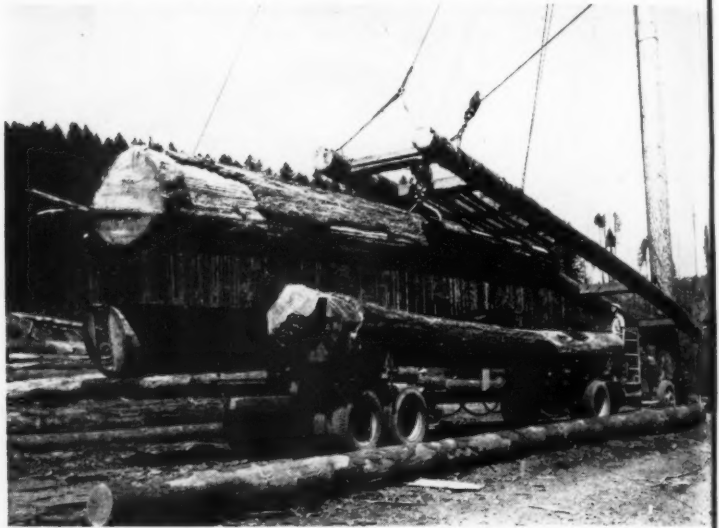
Welcome West

Easterners, Southerners and Midwesterners are due a liberal education on the ways of the west when they attend The American Forestry Association's four-day annual meeting September 6 through 9 in Portland, Oregon. Stories and pictures on the following pages highlight the program and describe the field trips



Famed Forest Hall, one of Portland's feature attractions

It takes powerful machinery to hustle West Coast logs



Some Things You'll Want to See



Oregon's Crater Lake is a dazzling study in blue

Getting some big ones out of the woods



Sawmill whirring with activity, even at night

IN what may have been an unguarded moment, The American Forestry Association's committee on field trips asked me to comment briefly on the arrangements made for sight-seeing during the 79th annual meeting in Portland. The schedule covers the first nine days of September, during which members of the AFA caravan will visit, on the way West, the Montana operations of the J. Neils Lumber Company, and see Glacier Park, before arrival on the fifth at Portland. Portland will serve as base for field trips to forest products plants, woods operations, and tree farms in the neighborhood.

The schedules and outlines of these field trips as prepared by the committee are given on following pages. I can think of no other region where in so brief a time the visitor could get a better idea of the full scope of today's forest products industry. I happen to know most of the men who arranged the trips and who will act as guides; and know also that the sum of their knowledge of the industry is wholly adequate to answer virtually any query that visitors can think up.

Because the schedules do not deal with anything in Portland itself, it might be well to remind visitors they can see here what is probably the largest log house on earth and in any case is worth a visit. It was built to impress the thousands of people who came to the Lewis & Clark Centennial Exposition in 1905. It did impress them, too; and it has been impressing others, including this reporter, ever since.

Five minutes drive from the log house is Willamette Stone, or Meridian, the so-called Common Corner on which all land surveys in Oregon and Washington are based. Erected June 5, 1851, it had long been forgotten and was lost in underbrush until a few history-minded men prevailed on the state of Oregon to make it a Historical Monument, and to provide easy access to it from Skyline Boulevard. It stands at $122^{\circ} 44' 33''$ West Longitude and $45^{\circ} 31' 12''$ North Latitude. I like to see it at least once a year, and reflect that its position accounts for the exact location of the last Forty of every quarter-section in the two states.

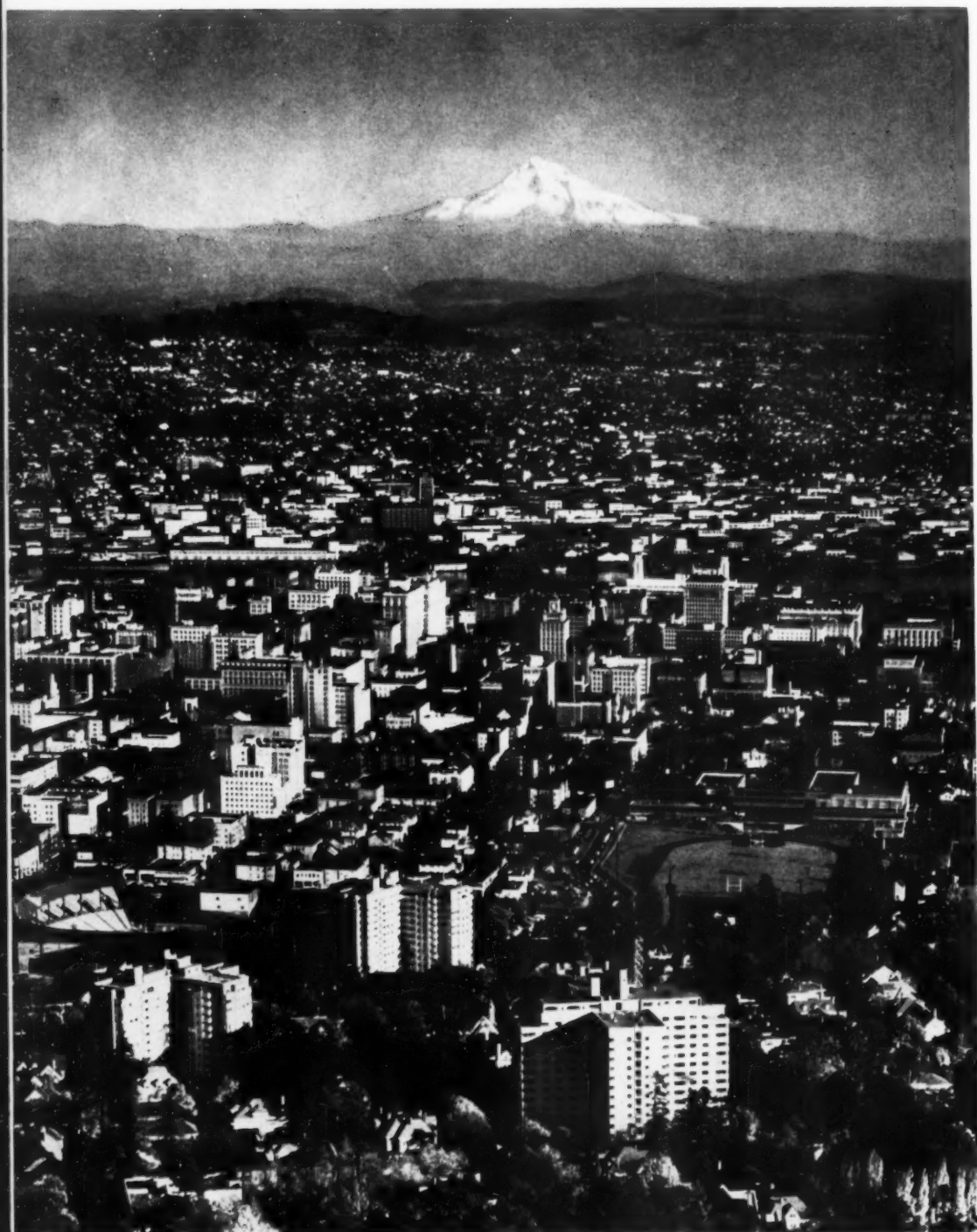
Portland also presents the fading remains of an area common to all Northwest cities, namely the Skidroad (not skidrow, a corruption). This is the part of town devoted to small hotels, lodging houses, saloons, restaurants, burlesque theaters, missions, employment offices, and various other establishments catering to itinerant workers. It is fading chiefly because footloose loggers, who were its main support, have long since got into the habit of marrying and raising families in their own homes, which are no longer of necessity in an isolated logging camp. Although Portland's Skidroad is hardly to be compared with its great days, when its most celebrated drinking place boasted a bar that ran to 684 lineal feet, it still has a flavor of its own and might be worth a visit by those interested in social history.

I mention these local items only in case visitors might have an hour or so between the field trips. But nothing should prevent all hands from making the field trips, which have been arranged with both care and imagination and from which, I believe, the trippers will return with a new respect for the revolution that has turned the old-time lumber business into a wonderfully integrated industry, with its future growing tall and green on the same acres that brought it into being a century ago and have kept it busy since.

On the following pages are the several field trips of September 1-9, as outlined by the committee of arrangements.—STEWART H. HOLBROOK.



AFA Annual Meeting



Portland, Oregon

PROGRAM FOR THE DAY SESSIONS

September 6, 1954

9:15- 9:45

OPENING CEREMONY Invocation by Morgan S. Odell, President, Lewis and Clark College, Portland.

WELCOME by Paul M. Dunn, Dean, School of Forestry, Oregon State College.

RESPONSE by Don P. Johnston, President of The American Forestry Association, Wake Forest, North Carolina.

9:45-10:10

KEYNOTE TALK by Charles A. Sprague, former governor of Oregon, on theme: "Multiple Use for Maximum Utilization."

10:10-10:55

AFA PROGRAM with Lowell Besley, Executive Director—Forester of The American Forestry Association, Washington, D. C.

11:05-11:20

ROLE OF THE GOVERNMENT FORESTS IN THE WEST by J. Herbert Stone, Regional Forester, Region 6, U. S. Forest Service, Portland, Oregon.

11:20-11:35

NATIONAL AND STATE PARKS IN THE WEST by D. Newton Drury, Chief, Division of Beaches and Parks, State of California, Sacramento, California.

11:35-11:50

STATE FOREST PROGRAMS by L. T. Webster, Supervisor of Forestry, State of Washington, Olympia, Washington.

NOON

LUNCHEON with talk by Stewart H. Holbrook, well-known historian and author, Portland, Oregon.

AFTERNOON SESSION

2:15- 2:50

TREE GROWING BY INDUSTRY AND FARMERS

(a) Douglas Fir Region by Roy F. Morse, Chairman, Industrial Forestry Association, Portland, Oregon.

(b) Ponderosa Pine Region by E. C. Rettig, First Assistant General Manager, Potlatch Forests, Inc., Lewiston, Idaho.

(c) Redwood Region by Emanuel Fritz, Consulting Forester, California Redwood Association, San Francisco, California.

2:50- 3:05

INTEGRATED FOREST INDUSTRY by J. P. Weyerhaeuser, Jr., President, Weyerhaeuser Timber Company, Tacoma, Washington.

3:05- 3:20

OREGON'S REHABILITATION PROGRAM by George Spaur, State Forester, State of Oregon, Salem, Oregon.

3:30- 4:10

PANEL: WATER RESOURCES AND THEIR USE—Stuart Moir, Forest Counsel, Western Forestry and Conservation Association, Portland, Oregon, Moderator, with

(a) PLANNING by Lyle F. Watts, Retired Chief Forester, U. S. Forest Service, Chairman, Oregon Water Resources Committee.

(b) WATER POWER by Paul B. McKee, President, Pacific Power and Light Company, Portland, Oregon.

(c) WATER FOR AGRICULTURE AND INDUSTRY by Judge Robert W. Sawyer, Retired Ex-Publisher, The Bend Bulletin, Bend, Oregon.

4:10- 4:25

KEEP GREEN PROGRAMS by Albert K. Wiesendanger, Executive Secretary, Keep Oregon Green Association, Inc., Salem, Oregon.

4:25- 4:50

MULTIPLE USE PLANNING by Marshall T. Dana, Assistant to the President of The United States National Bank, Portland, Oregon.

EVENING

7:00 P. M.

BANQUET

INVOCATION by Rt. Rev. Benjamin D. Dagwell, Episcopal Bishop of Oregon.
MASTER OF CEREMONIES—Col. W. B. Greeley, former chief U. S. Forest Service and Vice President, West Coast Lumbermen's Association.

SPEECH by Paul F. Patterson, governor of Oregon.

CONSERVATION AWARDS—Robert N. Hoskins, Chairman, Awards Committee, Industrial Forester, Seaboard Air Line Railroad Company, Norfolk, Virginia.

(SPECIAL EVENTS—Sunday, Sept. 5, 1:30 p.m., tour of Portland; Monday, Sept. 6, 9 a.m., tour of Timberline Lodge, Mt. Hood.)

SEPTEMBER 1-4—Trip Through Montana



MONTANA, the nation's third largest state, is a land of contrasts. Its name is derived from the Spanish *montaña*, meaning mountain. Almost 900 of the state's 146,997 square miles are in water, largely lakes of unusually scenic charm. The western section, approximately 200 miles wide, is an area of tumultuous topography, upended in jagged craggies reaching an elevation of 12,990 feet in Granite Peak on the Continental Divide, the backbone of America.

Eastern Montana rivers of importance are the Missouri and Yellowstone. Master river of western Montana is the Clark Fork of the Columbia, joined by the Blackfoot, Bitterroot and Flathead rivers. On the mighty Kootenai, near Libby you will see the proposed site of a federal dam for power generation and flood control which, if built, will require an international agreement.

Montana has one-fifth of its area, or 20 million acres, in timber. Twelve national forests are included in this count. Ponderosa pine is the principal tree species, but Douglas and white fir, lodgepole pine and Engelmann spruce are other important species. The Forest Service Savenac tree nursery at Haugan supplies about six million seedlings yearly for reforestation work.

Glacier National Park, named for the 60 glaciers in the park area, is first stop for the Conservation Caravan. The picturesque Going-to-the-Sun highway bisects the 1534-square miles of the park's scenic grandeur, climbs over Logan Pass in a series of breathtaking vistas including St. Mary Lake at the east end and Lake McDonald on the west.

Leaving the park, after stops at Glacier Park Hotel and Many Glacier Hotel, the Caravan will pass through the head of Flathead Valley, called the "park between the mountains" by the Salishan tribes. No

permanent settlement was made here until 1881.

When the Caravan arrives at Libby, it will be in the center of an important timber-producing area. Libby, a town of 2000, was named for the daughter of one of a group of prospectors who discovered gold on Libby Creek in 1862. It is the seat of Lincoln county, one of the most mountainous and heavily wooded in the state. The county is also the Christmas tree capital of the world (at shipping point Eureka) and has a Zonolite or vermiculite mining operation.

The story of western pine's modern forest practices will unfold at Libby, deep in the Kootenai's heavily timbered course. Here the J. Neils Lumber Company, with a diversified factory and timber-treating plant will be host for a woods tour. Here is a center of the tremendous battle to win control over the ravages of the Engelmann spruce bark beetle through emergency harvesting of millions of feet of infested timber. Salvage logging in the high country, hauling great loads over rugged hills, milling the spruce to fit the salesman's achievements, all will be shown. How the roads are built into the remote, high-elevation spruce stands, how a timber truss bridge was put across the mighty Kootenai to help in this vital forest management project, how this company is developing its program of continuous crops on its 200,000-acre tree farm—the whole dynamic story of a progressive modern forest industry working in cooperation with the principal landholder—the national forest—will unfold at this stop in the far northeastern corner of Montana.

The Kootenai River, which you will follow on your trips and by railroad, was named for a tribe of Indians, the Deer Robes, who are credited with being the finest deer hunters and tanners of hides among western Indians. Close to where Pipe Creek flows into the Kootenai is the site of the Kootenai ceremonial sweat baths, where thousands of pieces of rock remain to mark the ritual of the steam bath.

SEPTEMBER 7—All-Day Field Trip to Longview, Washington



IN November of 1852, a group of hardy pioneers gathered in an historic meeting at the little settlement of Monticello at the confluence of the Cowlitz and Columbia rivers. In this meeting, the pioneers passed a memorial strongly urging the division of Oregon territory through creation of a new territory

with the suggested name of Columbia. The memorial adopted at Monticello was to be used the following year in Congressional debate as an argument for creation of the new territory of Washington, later to become the state of Washington.

Monticello, the site of the historic territorial convention, no longer exists. In its place is the planned city of Longview, Washington, home of the world's largest lumber mills and most integrated forest products plants. This city, with an economy heavily dependent upon the Douglasfir forests surrounding it, is the destination of your AFA field trip of September 7.

Your first stop on the day's trip will be at the Longview Fibre Company plant. Here you will see a kraft pulp and paper plant with a capacity of 700 tons a day. Products produced in the plant include bleached and unbleached kraft papers, paper bags, towels, and asphalt laminated, creped, waxed and treated papers.

Longview Fibre Company began its operations at Longview in 1927 in a kraft mill with a capacity of 70 tons a day. Since that time the capacity of the company's plant has been increased tenfold through what the management calls "creeping expansion." The mill now employs about 1800 persons.

A great deal of the wood raw material used in Longview Fibre's 700-ton-a-day mill is obtained from sawmill leftovers. When the company built its first unit at Longview in 1926, it signed with the Long-Bell Lumber Company a long-term contract to purchase sawmill leftovers for pulp and paper production. Today, Longview Fibre buys sawmill leftovers from many other companies in Washington and Oregon. The company has set up a chipping plant at Eugene, Oregon—200 miles from Longview. At this chipping plant, sawmill trimmings, edgings and slabs, purchased from lumber companies, are chipped and then hauled to Longview by Longview Fibre trucks. To see these trucks with "Wood Chips Saved From Waste" painted across their sides is a common occurrence on the highways of Washington and Oregon.

From the Longview Fibre Company plant, the touring group will move to Long-Bell Lumber Company's factory operation, which produces furniture items. These include lawn chairs, unpainted furniture, truck bodies, prefabricated houses and kitchen cabinets.

The Long-Bell factory, which is integrated with lumber mills, is the world's largest plant manufacturing wooden kitchen cabinets. The famous Long-Bell cabinets are sold throughout the United States and even go into the international trade.

Long-Bell's furniture manufacturing activities date back to the mid-1920s when the company built its plant at Longview. Early in its operations at Longview, the company established a cut-up plant. This plant produced from short pieces of lumber pre-cut stock for furniture manufacture. Later, the plant grew into the furniture factory that it is today.

The Long-Bell Lumber Company and one of its founders, R. A. Long, are responsible for making Longview the planned city. In 1922, when Long-Bell was planning to build its plant at Longview, company officials gathered at the R. A. Long home near Kansas City, Missouri, to discuss plans for the community that would surround the new plant. The name for the town was selected, and then it was decided that this should not be just another mill town. Instead, the directors of the company wanted to make it a planned city. Plans for such a city were approved, and the Long-Bell company then engaged some of the nation's top city planners to work on development of the community. These plans were to be followed in the building of Longview. R. A. Long himself watched closely the building of the new city. From his own personal fortune, he made gifts to the new community which totaled more than \$1,700,000.

The final stop in the day's tour will be at the world's largest integrated forest products plant. This is the Weyerhaeuser Timber Company plant, which produces more than a million board feet of lumber daily. In addition, this plant makes sulphite and sulphate pulp, plywood, bark products, Pres-to-logs, food boards, wood trusses and laminated beams.

Located on this one plant site are three sawmills, two pulp mills, a plywood plant, a Pres-to-log plant, a bark products plant, power house, and a plant producing wood trusses and laminated beams. Leftovers from sawmills and plywood plant are chipped for pulp manufacture. Bark removed from plywood peeler blocks is manufactured into bark products. Shavings from planing mills are converted to Pres-to-logs. In an edge-gluing department, narrow boards are made into wide boards and short boards into long boards.

A luncheon for the touring group will be provided by Weyerhaeuser Timber Company at the company's cafeteria.

SEPTEMBER 8—Field Trip Up Columbia River Highway on Oregon Side



A CENTURY and a half ago, Lewis and Clark traversed the Columbia river gorge en route to and from the Pacific beach. On Wednesday, September 8, the AFA will retrace part of that historic trail with a field trip upriver to Bonneville dam, returning by way of Camas, Washington and the world's largest paper specialty mill.

First stop on the Oregon side will be Multnomah

falls, where a goodly volume of one material for which Oregon is famous (but not at that time of year) plunges over a towering precipice to rocks virtually at the side of the new river-grade Columbia river highway. This is indeed a sight to behold. A little farther upriver Bonneville dam stands athwart the West's Father of Waters and more highlights are on tap there. First comes a tour of the state fish hatchery,

where Columbia salmon runs gets some help from man. Then the dam itself, with a tour led by representatives of the Army Corps of Engineers. Over to a side are the fishways, where big chinook salmon can be seen fighting their way up, leaping the water steps in powerful lunges until they finally reach the counting tables at the top. This is a spot of rare interest to American travelers, unique and unforgettable.

A few miles above the dam, in a narrow part of the gorge, the party will cross to Washington state on the Bridge of the Gods, a man-made steel structure that spans the river at a spot once reported to have had a stone arch over the waters, a natural bridge that in Indian lore carried the name today's structure perpetuates.

Thirty miles west, the day's tour climaxes at the modern paper town of Camas, Wash., where Pacific Northwest papermaking started nearly 70 years ago and whence today flows a mighty stream of diversified paper products ranging from the toughest of multi-wall heavy-duty bags to the sheerest of tissues. More than 2800 people are employed in Crown Zellerbach's Camas operation, behind which stand great tree farms growing wood to meet the needs of this and other mills today, tomorrow and on. A tour of the mill from the massive wood plant where a hydraulic barker blasts off the "overcoats" of the logs, through the machine rooms and on to the finishing and packaging sectors will show the latest processes of this industry.

SEPTEMBER 9—All-Day Trip to Clatsop and Columbia County Tree Farms of Crown Zellerbach Corp.

ON September 9, convention delegates will be taken by bus on all-day tour of a 130,000-acre industrial tree farm where they will see firsthand the many phases of modern multiple-use management of forested lands typical of such areas today in the northwest.

The Clatsop tree farm lays north and west of Portland. It is bounded on the north by the Columbia river and on the east by the Pacific ocean. The town of Seaside, headquarters for the operation, marks the terminus of the famed Lewis and Clark expedition of 1804-1805. On the extreme northern edge and at the mouth of the Columbia is the town of Astoria, founded by John Jacob Astor in 1811 to open up the fur trade in this vast northwestern empire.

The tree farm itself began with a few acres purchased by Crown Zellerbach Corporation in 1893. Today it covers an area of more than 200 square miles and under intensive management and utilization is providing not only vast quantities of the wood required for man's progress in paper, but is also serving as a recreation and watershed area of considerable importance in northwestern Oregon. Under the modern concepts of tree farm management, fish and wildlife production, preservation of scenic areas and maintenance of clean water supplies for domestic purposes have become recognized as important corollary aspects of timber production.

On this particular area, where logging has been underway for over 100 years you will see slackline yarding and air tong loading of logs on a typical operation; a 25-year-old plantation indicative of the reforestation that goes hand in hand with harvesting operations through natural reseeding from seed blocks left in logging, hand planting of thousands of young seedlings, or aerial reseeding by helicopter on areas where nature has failed to do the job. The tour group will visit a typical log dump on the Lewis and Clark river and see how logs are weighed, strapped up

in "asparagus bundles," dumped into the water and made up into rafts for towing by tug to the mills. From selected vantage points visitors will see a vast area of timber killed by a forest insect, the hemlock looper, and learn the dramatic story of how over 40 million board feet of timber was salvaged and an additional 200 million feet saved from the looper decay and the possibility of fire.

A picnic lunch is planned at Ecola State park, a magnificent viewpoint overlooking the Pacific Ocean. If nature and the weather are kind the tour buses should scare up a herd or two of elk and deer along the Sugarloaf Mountain loop road.

Of interest too, will be the chance to observe how modern tree farmers attempt to maintain scenic strips along public roadways where timber is windfirm, and if not, how cutting and reseeding is done immediately to insure a quick return to forest cover along roadside margins. Trained foresters will point out the many precautions taken by a large modern tree farm to prevent fire—the many emergency waterholes, the weather stations at each logging operation, the standby portable pumps and fire fighting equipment, the many hundreds of miles of road essential to protection, and the lookout tower and radio communication system maintained by private companies and state and federal government in a vast network designed to prevent loss from the forest's prime enemy. One phase of fire protection that gets little public attention, but requires vast investment of labor and money is snag falling.

The AFA tour group will see the results of intensive snag falling efforts typical of those put forth by many of the private operators who have lands dedicated to the tree farm movement. Of interest, too, will be the picnic grounds maintained for the public, and the "Hunting and Fishing Permitted" signs which indicate that where fire danger, safety or road construction are not hazardous, the public is permitted access on private forest lands for recreational purposes.

(Editor's Note — The following article is an analysis by Dr. H. H. Chapman, of Yale University, of the forest landownership study recently completed and published by the East Texas Chamber of Commerce. The Texas study, made by Forester S. L. Frost, of Falls Church, Virginia, recommends that Texas national forests be sold to private owners. Just how many business and industry leaders subscribe to the views of the East Texas Chamber of Commerce, AMERICAN FORESTS has no way of knowing. On the basis of preliminary inquiries made up to this time, AMERICAN FORESTS does know that the Texas Chamber's report does not necessarily reflect the views of the Texas delegation in Congress and certain Texas organizations from which more will be heard later. In general, The American Forestry Association believes that this Texas report is of interest as representing one point of view. As such, it deserves consideration in any future representative and impartial study of the overall landownership pattern in the nation of the type recommended by the AFA in its Program for American Forestry. In view of keen interest that has been expressed in this subject, AMERICAN FORESTS proposes to fully examine the Texas report in future issues and invites expressions of opinion from its readers.)

THIS pamphlet was prepared for the East Texas Chamber of Commerce ostensibly as an impartial scientific and factual appraisal of the problem of disposition of the 657,933 acres owned by the national government and constituting the four East Texas national forests. It is a remarkable document, in that the statistical facts cited are in every instance accurate. Yet, the conclusions drawn from the data are totally inconsistent with these facts. The recommendations support the previous stand of the East Texas Chamber of Commerce, as stated in its Resolution passed on September 3, 1953, to the effect that the national forests as a whole (not merely in East Texas) should be sold to private purchasers (see AMERICAN FORESTS, January 1954, p. 23), and inviting all citizens throughout the nation to join this movement. It is this broadside attack on the entire system of national forests which makes it necessary to pay more attention to the East Texas sit-

By H. H. CHAPMAN

uation than if it were merely a local question.

The foreword begins by citing the fact that approximately one-fourth of the land area of the continental United States is owned and controlled by the federal government, which is "competing" with its own taxpayers in more than 100 different fields—thus creating the impression that the growth and production of timber as raw material on national forests, for the supplying of East Texas industry, is, instead, competing in some harmful manner with these cooperating industrial units, and concealing the fact that the 658,000 acres of timberland in the Texas national forests constitute but four-tenths percent of Texas, 1.8 percent of its forest area, and only 5.33 percent of its commercial forests; not an alarming proportion since 19 out of every 20 acres is privately owned, and a far cry from the ratio cited of one in four acres for the country as a

whole. The nature of this "competition" is brought out later.

The summary of findings begins with the statement that the East Texas national forests were not established primarily to restore forest lands, but to relieve unemployment. The Resolution of the State Legislature May 26, 1933 is cited as proof of this general, or blanket, contention. Texas, 22 years after the Weeks Law of 1911 was passed in the midst of the depression, authorized federal purchases. The Resolution stressed the same objective as did President Franklin Roosevelt as one of the benefits to result from his allocation of \$20,000,000 for said purchases. Yet, in another section of the report the argument is reversed, and the original purpose of the purchase program—that of protecting the headwaters of navigable streams—is cited as proof that the acquisition of the Texas forests for the purpose requested by the legislature was unconstitutional.

(Turn to page 54)

TEXAS NATIONAL FOREST STUDY



East Texas Chamber of Commerce

LONGVIEW, TEXAS

1954



THE TENNESSEE

Jack Ramsey and W. F. Cowan measure tree's diameter

Tennessee Conservation Department photos



In the remote, swampy bottomland of the Reelfoot Lake country stands an ancient bald cypress more than a hundred feet tall

By SIDNEY SNOOK

DOWN in Tennessee there is a newly discovered "big tree." Big, it is; and old. A bald cypress, more than a hundred feet tall, it has stood for a thousand years or more in a remote, swampy bottomland of the Reelfoot Lake country in western Tennessee. It was brought to public notice only three years ago which, relatively, makes it a very "new" discovery.

When the Tennessee State Conservation Department at Nashville got word that a giant cypress, which was glowingly described in the earliest reports as "the biggest tree east of the Rockies," had been found, foresters and photographers hurried to the scene. The first tip on its discovery came from a small town newspaper editor, James M. Thomas, of Hazel, Kentucky, near the Tennessee state line, who had chanced upon the startlingly big tree while traveling through the remote section in the fall of 1949.

The tree stands in an almost inaccessible bottomland of the south fork of the Obion River in southeastern Obion County. It can be reached only by boat—and hip boots. So by boat and by boots the Conservation Department's representatives went into the area in February, 1950, to take measurements and to determine what steps, if any, were required for preservation.

This bottomland region of the Obion fork is approximately three miles wide and is inundated at certain seasons. Although there are scattered dwellers in the surrounding upland area, few people, it is believed, ever have seen the tree because of its inaccessibility. There is a base depression at the tree, which is filled with water from a nearby canal.

W. F. Cowan, Assistant Tennessee State Forester, Jack Ramsey, of the Conservation Department, and Paul A. Moore, photographer, armed with equipment for measurements, an increment borer, and cameras, waded into the lowland through hip-deep water.

What they found was indeed a big tree—*Taxodium distichum*—and an old tree, its age conservatively estimated as at least a thousand years. Increment borings which were taken, showing the number of annual rings per inch, would indicate an age of 1300 years. However, the conservationists pointed out, since the normal rate of early growth is faster than later growth with a definite decrease as the tree approaches maturity, it probably would be safe to assume that the big cypress has been standing for a thousand years or more; and was a seedling in the Tennessee forest in the year 953 A. D., about 500 years before Columbus discovered America.

The tree is in a state of good preservation, and, barring some catastrophe of nature, such as the windstorm which broke off its top branches many years ago, it should stand for a long time to come.

Measurements which Cowan recorded showed a height of 122.5 feet to its broken top. The circumference, 4½ feet from the ground, was 39 feet, 8 inches while the diameter at the buttressed base was 12½ feet. The crown spread, 47 feet.

There is a hollow in the center of the tree, extending 15 feet in height, which is large enough to permit four or five people to enter. The tree is believed to be solid the rest of the way up.

To their knowledge, the Conservation Department's foresters say, it

is the largest known bald cypress. Certainly it is one of the oldest and largest trees in the country.

The exact site of the tree is ten miles west of the town of Sharon, Tennessee, and 25 miles southeast of Reelfoot Lake. It is a part of the holdings of a local farmer who expresses acquiescence if some organization should wish to mark off the tree area and put up a commemorative "famous tree" plaque for the interest of future generations. No such step has been taken as yet.

The rugged old cypress, which has stood through the sunshine and storm of century upon century, now may take its place among other giants of the forest and "famous trees" of Tennessee, such as the big pecan on the old Natchez Trace, which is said to be "the largest pecan tree in the world."

Base of Tennessee's huge cypress tree



Director Conrad L. Wirth Announces New Fishery Policy For National Parks

(His Statement)

NATIONAL park wildlife policy is consistent with the general theme of national park administration, i.e., that the areas will be maintained unimpaired for the benefit of present and future generations. In establishing and managing parks, wildlife requirements are a primary consideration.

The fact that fishing is permitted in certain national park waters requires some deviations from the general wildlife policy. However, fishing in the national parks remains a privilege. It is subordinate to the primary purpose of preservation and can be exercised only at such times and by such methods as to avoid impairment of the landscape and plant and animal life. Fishing, or use by the general public of specific waters, may be excluded when necessary to preserve aquatic species or habitats which are limited in distribution. (Species or habitats may be in such delicate balance that they would be adversely affected by angling or other public activities.) Fishing is not permitted in research reserves, or elsewhere when the waters should be kept in a strictly natural state. Fishing also may be excluded from designated waters when such activity materially decreases the enjoyment of the area by the general public.

The following policies govern the management of waters, artificial stocking, and fishing in the National Park System.

Management of Waters and Fish—To preserve the populations of native species and yet make use of the fishery, the fishing pressure will be regulated to harvest only the annual crops of native and permanently established exotic species; hatchery fish may be stocked to restore the native populations lost by natural catastrophe; and, biological surveys will be employed to determine the harvestable crop and requirement of hatchery fish for restorative purposes.

All forms of artificial improvement of streams and lakes for fish-

ery management purposes, which would alter natural conditions or the landscape, are avoided. Where the aquatic environment has been altered by man's actions, and when restoration through natural means is improbable, measures are taken to return streams and lakes to a more normal condition.

In those rare instances when it is feasible to remove undesirable exotic species of fish or other aquatic animals, poisons such as rotenone may be employed under direction of the Park Superintendent, with proper precautions to safeguard natural values, when authorized by the Director, National Park Service.

A detailed plan for fishery management including restoration of species, spawn-taking, stocking, regulation of angling and designation of protected waters, shall be maintained in each park with significant aquatic resources.

Stocking—Exotic species of fish or any other animal, or any exotic species of plant, may not be introduced into waters of the national parks, except as provided below.

In waters where exotic species of fish are established and valuable for angling, planting of the exotic species may be continued temporarily with the approval of the Director, National Park Service. However, when replacement of the exotic by the original native species is practicable, the latter shall be encouraged to take over its former place.

In the case of exotic species, biological surveys will be used to determine the advisability of replacement with the native species; means of replacement; and use of hatchery reared fish for reestablishment of native species. When exotic species have become so firmly established that their replacement is impractical the fishery will be managed in a way similar to that for the native species of other areas.

Numerous studies have demonstrated that, unless waters are pol-

luted, over-fished, or misused otherwise, native fish reproduce in numbers sufficient to fully stock their environment. Stocking of fingerling trout in most waters with adequate spawning areas is of little or no benefit and should be practiced only after adequate surveys have demonstrated the need. When funds and personnel are lacking to make these surveys, but continuance of stocking is considered essential, planting of fingerling trout in some waters may be continued.

The use of catchable-size fish in stocking waters is not compatible with the fundamental concept of national parks. Competent study of the conditions which seem to indicate a necessity for this type of stocking should be made in all instances, and prior authorization secured from the Director, National Park Service, before any such stocking is undertaken. When required, "put and take" fishing will be delimited in the authorization and managed according to current standards for this type of fishery.

Fishery Investigations—Research is vital to conservation and proper management of the fishery resources and angling. Well-planned investigations should be conducted in the National Park System by competent aquatic biologists with adequate time and equipment for their work. Research should be aimed primarily at learning the status of the aquatic life and the factors that limit productivity, to the end that remedial action will be taken when necessary.

Fishery Regulations—Regulation of fishing should ensure equitable angling opportunities to the greatest extent possible. It should ensure, of course, the proper conservation of the native species of fish and compatible management of introduced, established species.

Promotional Publicity of National Park Fisheries—Angling pressure on the more accessible waters of the National Park System has increased until the natural spawning and rearing potential is generally inadequate to maintain high quality sport. Therefore, publicity regarding angling will be factual and realistic with respect to fishing conditions in the areas. The restraint of promotional types of publicity is not intended to discourage the dissemination of information on such subjects as conservation of aquatic resources, fishing regulations, care of fish by anglers, or of the place of angling in the national park experience.



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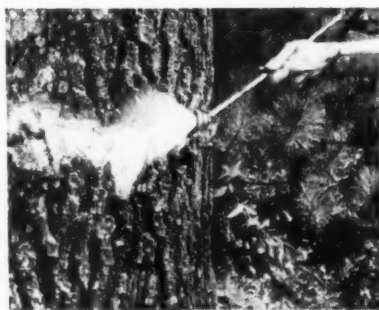


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Aldo Leopold — Priest and Prophet

(From page 23)

examining the construction of the plants, animals and soils which are the instruments of the great orchestra. These men are called professors. Each selects one instrument and spends his life taking it apart and describing its strings and sounding boards. This process of dismemberment is called research. The place for dismemberment is called a university." Nevertheless his own children and a remarkable number of his former students are among the finest research people in this country. He taught them to painstakingly search for the truth, the whole truth, and be satisfied with nothing but the truth; to think like a river, think like a mountain, and think like a dying wolf.

In 1933 he became a professor when he assumed the chair of Game Management, now called Wildlife Management, at the University of Wisconsin. In 1943 he became a distinguished member of Wisconsin's Conservation Commission. He continued in both capacities, and an imposing array of others, until his end—a fitting end: a heart attack while helping a neighbor fight a grass fire near his beloved week-end refuge on an old sand farm, "the shack."

Upon accepting this assignment, proud but panicky, I squalled for help and promptly got it from Harlow Mills, bless him, chief of the Illinois Natural History Survey. Dr. Mills put me on the beam: "To define Leopold as a forester or a game manager is as much of a half-truth as to define Abraham Lincoln as a man and let it go at that.

"He was by nature a man of broad and synthesizing interests with a knowledge of the literature of the past, the ability to perceive a problem in the present, and through analysis of past and present, a unique capability—bordering on clairvoyance—of extrapolating trends and ideas into an analysis of the future. He was, then, a forester, a game manager, and above all a philosopher who held his head high.

"There are many foresters, fewer game managers, and still fewer philosophers. There doubtless are and have been a number with equal training and bent, but the unique ability of expression which was Leopold's has seldom been equalled. He had the knack of putting ideas into a

few terse words and because of this he is one of the most quoted of nature writers.

"His concept of multiple use set a pattern, and in his mind each use of the natural setting fitted into place with all others. His concept of ecology had Man as the central figure. He was obsessed with the idea that all fields contributed to a larger whole, as when he said, 'To promote perception is the only true creative part of recreational engineering'."

That epigram is one of the gems in an essay on outdoor recreation, "Conservation Esthetic," now included in the collection of essays published in "A Sand County Almanac." It triggered a chain reaction which has had tremendous impact upon the development and use of public lands for recreational uses. It crystallized the thinking by a lot of men all over the country. It took some of the curse off of "dicky-bird ornithology" and put long pants on "that thing called 'nature study' (which), despite the shiver it brings to the spines of the elect, constitutes the first embryonic groping of the mass-mind toward perception."

It originally appeared in the March-April, 1938, issue of *Bird Lore* (now *Audubon Magazine*). In it he pointed out that the retreat of wilderness and the abuse of recreational areas was no local thing. "Drums along the Mohawk are now honks along the rivers of the world. *Homo sapiens* putters no more under his own vine and fig tree; he has poured into his gas tank the stored motivity of countless creatures aspiring through the ages to wiggle their way to pastures new . . . He is the motorized ant who swarms the continents before learning to see his own backyard, who consumes but never creates outdoor satisfactions . . . It would appear, in short, that the rudimentary grades of outdoor recreation consume their resource-base; the higher grades, at least to a degree, create their own satisfactions with little or no attrition of land or life . . . Recreational development is a job not of building roads into lovely country, but of building receptivity into the still unlovely human mind."

My boss, Charles G. Sauer, general superintendent of the Forest Preserve District, happened to read that

essay. He told me to pour some of that stored motivity into my own gas tank and swarm up to Madison. For years he had been puzzling over our problems of unintelligent use and misuse. The lack of capacity for wise use and enjoyment of their own public property by metropolitan dwellers was a tragedy. Their indifference or contempt for the flora and fauna, and their abuses, were responsible for an intolerable increase in our costs of operation and maintenance.

That was the first of many pilgrimages to get our thinking straightened out. We made Professor Leopold very happy. Somebody, at last, was listening. He gave us the basic concept which quickly and widely was adopted by park people: *a principle function of administration of recreational areas is to improve the quality of public use.* The time was ripe for it, just as the time had been ripe for his arrival on the game management scene. Outdoor Education, as we call it for want of a better name, is now a snowballing program in schools, parks, forests and all types of camps.

"Round River," edited by his son Luna, contains selections from Aldo Leopold's journals and essays taken from contemplative notes and unfinished manuscripts reflecting his lifetime of developing perception. The text of the opening and keynote essay on "A Man's Leisure Time" is taken "from the gospel according to Ariosto: 'How miserable are the idle hours of the ignorant man.'"

In an essay on the values of wildlife in our American culture, I suspect he was thinking of Cicero's dictum: "To be ignorant of what happened before you were born is to remain forever a child." Leopold asserted that there is a "split-rail value in any experience that reminds us of our distinctive national origins and evolution, i.e., that stimulates an awareness of history. Such awareness is nationalism in its best sense."

He described another value, upon which the outdoor education programs in our forest preserves are based, as one "in any experience that reminds us of our dependency on the soil-plant-animal food chain, and of the fundamental organization of the biota. Civilization has so cluttered up this elemental man-earth relation

with gadgets and middlemen that awareness of it is growing dim. We fancy that industry supports us, forgetting what supports industry." That unawareness is most appalling in what Walter Lippman characterized as rootless masses of city people, separated from the elementary experiences of humanity, "who eat but no longer know that their food is grown, who work but no longer see what they help produce, who have all the latest news and the latest opinion but have no philosophy by which they can distinguish the true from the false, the credible from the incredible, the good from the bad."

Those are the people who perhaps will benefit most from the efforts of those of us who were taught and inspired by Aldo Leopold. In terms free from the jumbled jargon and lumbering lingo of so many ecologists, he clearly demonstrated the land pyramid; and the concept that land is not merely soil but a fountain of energy flowing through a sustained circuit, augmented by energy from the sun, of soils, plants and animals. Food chains are the living channels which conduct energy upward; death and decay return it to the soil. Then he pointed out modern modification in the biotic streams where food chains "now begin with corn and alfalfa instead of oaks and bluestem, flow through cows, hogs and poultry instead of into elk, deer and grouse, thence into farmers, flappers and freshmen instead of Indians."

Finally, he said: "All ethics so far evolved rest upon a single premise: that the individual is a member of a community of interdependent parts . . . The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land . . . In short, a land ethic changes the role of *Homo sapiens* from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such."

And so, carved on a plaque above the big fireplace in Cap Sauer's office, you may see:

"The practice of conservation must spring from a conviction of what is ethically and esthetically right, as well as what is economically expedient. A thing is right only when it tends to preserve the integrity, stability and beauty of the community, and the community includes the soil, waters, fauna and flora, as well as people."

That was the creed of Aldo Leopold.



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Our Capital's Rock Creek Park Mess

(From page 22)

of more adequate sewer facilities is completed. Although rural pollution and the danger of infectious disease from outdoor privies in Montgomery County are not considered serious, Maryland Park authorities discourage wading or bathing. This restriction is highly essential because the fine clay and silt particles suspended in the water cause the creek to remain turbid for days after a rain, aside from the unsightly mud and trash deposited along the banks and in the channel.

No community can afford to condone public eyesores and health menaces if it expects to retain its self-respect. Metropolitan Washington is no exception. The mess on Rock Creek is of its own making and the corrective measures are primarily its own responsibility.

Rock Creek's major sore spots are the urban, suburban and agricultural areas. The urban and suburban areas represent menacing sources of runoff and sediment largely because no restrictions exist on the excessive barring of earth during building operations, and on the disposal storm drainage by real estate developers. The county government and the Maryland-National Capital Park and Planning Commission have also lagged in their efforts to help the creek handle this increase drainage more efficiently, and especially to conduct the comprehensive studies necessary to a coordinated clean-up and restoration watershed program.

Comparatively speaking, the farm lands do not represent nearly so serious a problem as the residential sections. Erosion is not apt to be too severe where much of the soil is in permanent pasture or woodlands, and where additional large acreages are devoted to close-growing crops like wheat, oats, and barley. Nevertheless, muddy flash floods and swift surface runoff and erosion are frequent occurrences. These conditions indicate a need for more widespread conservation practices.

Highly erosion-conscious are the Washington Suburban Sanitary District authorities who are concerned over the silt from road banks and farms entering the big Triadelphia water-supply reservoir on the nearby Patuxent River. Within Rock Creek watershed, the District exercises care in laying out its sewer lines, although

in some instances the ditches have been permitted to gully, and runoff occurs from some cleared and compacted sewer-line strips. The District lacks power to compel real estate developers to install storm drainage facilities, but where such facilities are installed, it must approve the plans. The notoriously poor quality of such facilities raises doubts about the effectiveness of the District's jurisdiction.

The Maryland-National Capital Park and Planning Commission is authorized to build flood levies and apply other means of reducing floods and siltation. So far, however, this Commission has done pitifully little either to get at the causes or to correct the consequences. "Remedies" thus far consist mainly of a bit of channel widening here and there, removal of trees which have fallen into the channel as the banks have caved in, and occasional bank rip-rapping to hold a threatened bank. The District authorities have done as little in the lower reaches.

Nothing short of a comprehensive watershed-wide survey, leading to a coordinated improvement program, will clean up the mess on Rock Creek. Such an attack must be participated in by local citizens through their civic associations, conservation groups, and the local, state, and federal agencies. The job cannot be done overnight, nor accomplished by piddling around on the creek itself. The approach must be over-all, based on full use of currently available scientific principles and methods. It must also utilize legal means to discourage the land-use, road building, storm drainage, and sewage disposal practices which are directly responsible for the present situation.

One of the principal needs is to stabilize hundreds of acres of raw earth completely exposed during building construction. Such areas often remain bare and compacted for several weeks to several months before they are finally covered by pavements, lawns, or buildings. A protective mulch of burlap or other low-cost material can easily and cheaply be laid down and secured by hand or machinery. But it will probably take local ordinances to put even this feature into effect.

Topsoil ripped off the surface by bulldozers need not be forever lost.

It should be piled to one side for placement on future lawn sites. This practice would be relished by grateful homeowners who must now struggle mightily and incur considerable expense to grow grass and gardens on subsoil devoid of humus.

More adequate disposal of storm water is another "must." Advance planning to allow for the lay of the land, and the use of inexpensive desilting culverts, "aprons" and "lined" ditches would avoid the gullyng that presently results, and better assure that clearer waters will enter natural watercourses.

The stabilization of raw road banks is another well-tested and money-saving conservation measure. Raw banks can easily be protected and beautified by fertilization, seeding or planting, and mulching. Besides reducing erosion and muddy flows, this practice also lowers the costs of cleaning out clogged ditches and culverts.

Stream bank cutting can be lessened by planting dense strips of shrubbery—multiflora rose or hawthorn, for example—along the watercourses. This practice will discharge excessive trampling along the water's edge where the banks are most subject to caving. The litter protects the soil surface, and the fine roots bind the silty soil, thus helping it better to withstand the force of fast-growing water. Spiny, fruiting shrubs also attract songbirds and small animals by providing food, shelter, and nesting places safe from dogs.

In the rural section, the Soil Conservation District can stimulate sound management of pastures, mulching of croplands, removal of cattle from the woods, and restoration of gullied and other worn-out lands by setting out trees and wild-life plants. Safe disposal of water from sloping fields and farm roads also needs emphasis.

All these things fortified with appropriate measures by the local governments to avoid constant repetition of undesirable practices, and to maintain improvements already applied, can successfully restore the scenic and recreational values of Rock Creek and its park.

The bulk of the public has little conception of the extent to which Rock Creek has deteriorated. Just

now citizens are up in arms over a threatened expressway through the heart of Rock Creek Valley. But few are aware of the equally grave threat from uncorrected land practices. Most people are simply not trained to observe conditions or processes outside their ordinary line of activity or interest. This observation is not limited to city dwellers alone. It also applies to a surprising degree to many who work with the land.

These deficiencies can be overcome by organizing programs to acquaint adults and youngsters with the daily happenings along the streams below their expensive homes and attractive lawns and parks. Tours over the watershed led by naturalists and watershed experts can be followed up with illustrated talks and discussions showing how similar conditions in other areas have been corrected by organized effort under competent leadership.

Understanding of big things usually begins with understanding of little things. If we are to clean up the horrible conditions on the Potomac River watershed, we must start with the little areas like Rock Creek. Our gained experience in working together with our neighbors on small-scale constructive projects will pro-

vide a more realistic knowledge of the more complex problems on the bigger watersheds.

Above all, such cooperative effort will reduce the indifference to their environment that characterizes the attitude of many rural and urban people. Here on Rock Creek we can work together to make our environment more wholesome and livable. And we can learn to curb some of the preventable evils of rapid development.

The Washington area contains many national or local conservation groups who can help in a united attack upon Rock Creek's man-made ills. They include The American Forestry Association, American Tree Association, American Watershed Council, Audubon Society, Citizens for Conservation, Izaak Walton League, National Parks Association, Wilderness Society, Wildlife Management Institute, Nature Conservancy, and the Washington sections of the Society of American Foresters and Soil Conservation Society of America.

The rural area is represented by the Montgomery Soil Conservation District and county agricultural agent, and the state of Maryland maintains a district forester whose

services would also be available. Other organizations—local units of the League of Women Voters, Parent-Teachers Associations, citizens associations, and business and labor organizations—can also be expected to pitch in once the issues and the program are made clear to them.

Interest has already been expressed in a park protection and watershed program spearheaded by representatives of the above groups. Plans are now shaping up to initiate this first important step toward a permanent watershed association of the type that has produced such effective results in Pennsylvania's Brandywine Valley, and elsewhere.

Altogether, the cleanup of Rock Creek will challenge our ingenuity and test our community spirit. It will be no easy task to overcome the inertia and myopia that characterizes some community attitudes today. Fortunately, many rural, urban, and suburban residents are affiliated with voluntary organizations which do attempt to deal constructively with local problems. Such organizations can cooperate on a Rock Creek watershed program in which the entire nation can take pride. The time has never been ripper!

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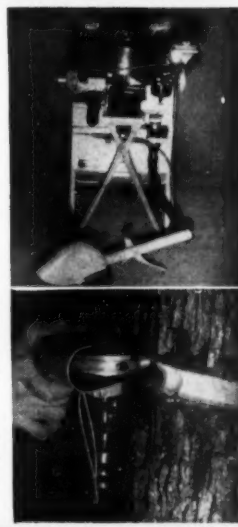
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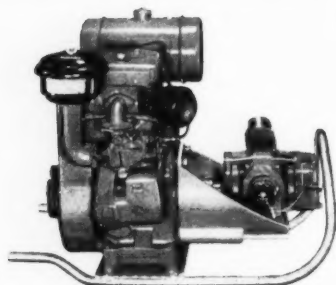
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Farm Forestry

(From page 25)

said: "I sell logs, piling, posts, fuel. I keep my woods growing the best I know how. I cut products myself, annually, or every two or three years; depends on the help I can get." This farmer is obviously growing wood as a farm crop. He doesn't need much help from foresters.

Another farmer admits reading bulletins. He says. "I sold one walnut tree for \$100 and I am told that hardwoods like mine grow 350 board feet per acre per year." I say, good work Mr. Farmer. You do have a good woods, and besides that 350 board feet, chances are that you will get considerable pulpwood, posts and fuel that will bring in additional income.

Question 3. Do livestock graze your woods? If you wanted to grow profitable wood crops, would it be necessary to keep livestock out of the woods?

In the three states, two-thirds of the farmers said that they do not permit livestock in their woods. This is a surprisingly high percentage and in contrast to what is revealed by scattering returns from other states. Here are some of the answers of farmers who favor woods grazing.

"Yes I graze my woods, but if I want a wood crop, I had better keep them out." "Yes, light grazing at times is OK." "No, I do not graze because my woods is too thick. I mean to thin it out so that I can graze it." "Yes, the cows like the shade." "Yes, I graze the oaks but not the pines." "I need the woods for pasture; grazing doesn't hurt the big trees and the smaller ones are still growing."

Question 4. If you wanted to grow wood as a farm crop, what would you sell—all big trees, only a part of them, or a mixture of big and little?

In the three states, on this question, the farmers divided 50-50. One-half would sell only big trees; the other half would sell both, and some explained that the two sizes would come from thinnings and from mature trees. This represents advanced thinking on the part of at least half the farmers. Must credit this to good educational work.

Question 5. How would you sell your timber?

a) as standing timber for a lump

sum? b) as standing timber on log scale? c) as logs and other products at the roadside or delivered at the mill?

In the three states, 60 percent of the farmers wanted to sell products either at the farm or delivered to market. Thirty percent wanted to sell standing timber, and all but one lone farmer specified log scale as the basis of payment. The lone exception was willing to sell for a lump sum and avoid a lot of bother (and no doubt take a heavy loss, but he would not know it). Ten percent were not definite in their answers.

Question 6. How often would you expect to sell timber from your woods?

In the three states, one-third spoke of sales in terms of every 10 years or longer. One-half spoke of selling more frequently than every 10 years, with the majority favoring every two or three years.

The answers to the foregoing six questions were supposed to give the student a pretty good idea about how far the farmers had progressed in understanding what is meant by growing wood as a farm crop and how nearly prepared they were to receive the techniques useful in growing a wood crop. In other words, how successful was the educational program in that locality in laying the ground work for the farm forestry technician?

In the three states where most of the answers apply, I think there is reason to feel encouraged by the results. Farm forestry education is beginning to show good results but probably needs to be pin-pointed more sharply to specific problems of "growing wood as a farm crop."

What about the educational background of farmers in other localities? Well, we haven't, as yet, nearly enough farmer answers from states other than the three already discussed to justify any conclusion. However, I must admit that the returns (with a few exceptions) are not at all encouraging. Most of the farmers so far sampled seem to be in the lump sum era. Incidentally, some scattered returns indicate that perhaps a heavy percentage of farmers still in the lump-sum sales era, reside

in states very completely covered by Farm Foresters. Like the candidate for office, I refuse to accept the early returns as even indicating a trend, especially since it is in the wrong direction.

The replies from two farmers, from widely separated states, are typical of the attitude of a small percentage of farmers throughout the United States. Both farmers indicated that they valued their woods for their beauty and majesty and they would not think of cutting any trees, especially for sale. One of them expressed it this way. "I grew up with these trees and I want my children to enjoy them. Do you know how long it takes to grow a tree?" Unfortunately the next generation doesn't always feel the same love and veneration for the woods as did the parents. The records show that the children of one of these farmers, after his death, called in the lump-sum buyer who made short work of the majestic trees, leaving a wreck behind. The heirs, no doubt, found their satisfaction in the shiny new cars that they bought with the money.

Now before I bring this little story to a close, I would like to point out that perhaps one reason for our failure to make much progress in farm forestry in the last 50 years, is because we have tried to teach farmers commercial forestry and not "wood as a farm crop." There is quite a difference, and the ways of teaching the latter are very different from those employed in teaching the former. It may be well, also, to define precisely what I think we mean by the expression "growing wood as a farm crop." Here are the specifications:

- 1) Sell processed products, not stumpage (there are a few exceptions but not many).
- 2) Organize farm operations so as to fully utilize, in woods work, the farm labor not profitably occupied with other duties.
- 3) Cut annually wood products for use or sale in addition to cultural operations in the woods.
- 4) The farmer must become the active manager of his woodland enterprise. As such, he plans the development of his growing stock; he supervises the marking of the timber and the cutting of wood products for home use or for sale and the needed cultural operations; and he markets the products that he wishes to sell.

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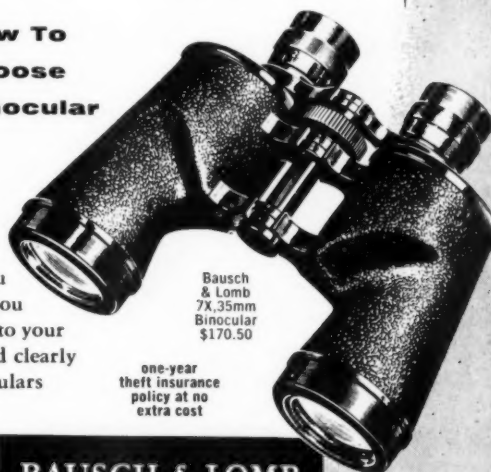


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Target—A New Era of Reason

(From page 13)

ing his presidency at Nebraska University. His arrival, practically on the eve of the biggest conference on resources in the history of the country, turned the tide. Word that a big, objective-minded westerner with a bear-trap handshake was talking hard sense at Resources for the Future, spread through every segment of the conservation world. Practically everybody pitched in to help. The result was a highly interesting conference that shook up the whole resources firmament mentally, and which is still being discussed. If the purpose of the conference was to give people an idea of what the other fellow was doing, it succeeded admirably.

Today, Dr. Gustavson is hard at work organizing a staff of topflight men from the various fields of resources activity—energy, water, soil, forestry, and all the rest. Asked what he was looking for in these men, Dr. Gustavson replied, "First of all, absolute objectivity—which means they must be people of the highest attainment in their respective fields and also people of unquestioned integrity."

Organizing this kind of a team is Dr. Gustavson's biggest problem at the moment. Once he has this type of organization perfected, he feels, that with his board's guidance, he will be well started on the next problem, where to throw the weight of his organization to do the most good by making grants based absolutely on objective decisions.

Another of Dr. Gustavson's current problems is that of dispelling a popular notion which has grown up that Resources for the Future has "unlimited funds." True, more than three million dollars to be spread out over a five-year period sounds like a lot of money. However, it dwindles drastically when stacked up against some of the 175 requests for funds the new organization has had so far. One \$500 million grant has been requested for agriculture. Another grant of \$20 million has been requested to publish a world atlas. A grant of \$10 million has been requested to purchase lands for recreation activity. And so it goes with more and more requests for funds arriving at the Resources for the Future office every month. For example, the total since January 1 has

been 62. The month-by-month breakdown of these requests is: January, 18; February, 10; March, 13; April, 6; May, 9; and June, 6.

To date, only one grant has been made—\$5000 to the American Planning Association to study the economic implications of peacetime atomic power. Unlike such fields as forestry, there is a great dearth of factual material in the field of energy, Dr. Gustavson said.

"We know where to go in forests, water, and other similar activities," Dr. Gustavson pointed out. "But very little has been collected on energy and this initial study will very likely be preliminary to a much more comprehensive study and program later on."

While an activating staff of experts is yet to be selected, Dr. Gustavson revealed that an approach to the Resources for the Future program has now been delineated. Drawing upon the many proposals and suggestions made, a number of specific problems have been suggested for careful investigation. Some nine problems (10, including the project dealing with nonmilitary uses of atomic energy) have been selected from a larger number, as meriting thorough exploration in the months immediately ahead. These are:

1) *To fill a need for certain continuing, or periodic, studies in the broader fields of resource development and use.*

2) *To improve the principles and methods for evaluating resource development projects and programs, both public and private, including economic, social, and other factors. A solution, or at least progress in the solution, to this problem lies at the heart of a wiser selection of resource projects, including both single-purpose and multiple-purpose projects, by government agencies and private firms.*

3) *To correct, or at least mitigate, unemployment and distress in certain areas or industries heavily dependent upon waning natural resources; for example, in chronically distressed areas such as high-cost coal mining districts, cutover timberlands, certain exhausted metal mining districts, submarginal farming areas, and places where water supplies are diminishing.*

4) To understand better and evaluate the role of resources development in regional and national economic development by means of an integrated program of research for a larger region of the country. A large region, such as the West or the South, could be studied in terms of its resource patterns, the historical trends of resource development, and the resource potentialities, with all of this related to the region's population, the characteristics of its labor force, and its social institutions. Particular emphasis would presumably be given to needed research and capital requirements for regional development, and to the intricate relationships among various regions, and between any single region and the nation as a whole.

5) To explore ways of improving the supply and utilization of timber resources in order to assure the economic availability of sufficient timber to meet the nation's long-term requirements for forest products, through such means as experimental and demonstration work in forest genetics, improved management, reducing waste in the production, processing and consumption of forest products, and the development of new products.

6) To study broadly the role of energy in the economy in past years and its likely role over future periods; with particular attention to the reserves of various energy sources, the over-all requirements for energy to sustain economic growth, the alternative technologies and costs of making energy available from different sources including those presently undeveloped, the long-term investment programs necessary for energy development, the interrelations of energy with other resources such as water, and the requirements for intelligent private and public policy in this field. Such a program of studies in the energy field implies substantial long-term support if it is to develop additional knowledge and greater understanding of such a complex matter.

7) To improve the administration and management of resource enterprises and programs. In part, this may be done through a series of case studies in public and private administration to determine the factors and conditions which make for effective resource administration, especially when several organizations or groups are involved. Education and training programs, in the schools and universities and "on-the-job," likewise offer means for improving resource administration.

8) To encourage, extend, and improve education and training in resources fields, emphasizing especially the social science aspects. This includes aiding school and community programs of education in better resource management and use, support of regional, state, and local conferences on resources problems, perhaps conceived of as follow-ups to the Mid-Century Conference; training of resource researchers and teachers through fellowships, exchanges, seminars, and the like; experimental work in extension and demonstration, surveying and expanding the job market for persons trained in various resource fields including that of the "resource generalist."

9) To explore the possibilities for economic and social development in smaller watersheds. Such a project might well combine research and fact gathering with programs of information and education, all forming a background for greater understanding and better development of the watershed. Urban and rural elements might be united in such a program, with consideration given to the decentralization of city people and facilities.

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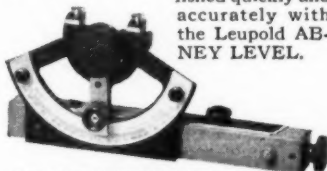
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Through a process of exploratory studies, conferences, small grants, and Resources for the Future staff work, it is hoped that these problems can be investigated and that lines of fruitful work of a more detailed and definitive nature for Resources for the Future can be discovered. In other words, the exploratory studies should make reasonably clear the next steps for Resources for the Future grants and, to an extent, direct research and education activities.

"The precise nature and sequence of these explorations can not be seen at this time," Dr. Gustavson said. "But the staff believes it desirable to approach these and other problems with an open mind as to substance and flexibility as to methods."

Meanwhile, Dr. Gustavson said the staff is seeking guidance from its board of directors, headed by Horace Albright, on five key questions. These are:

- 1) Which problems should be attacked first and most intensely?
- 2) What types of projects are out of bounds for Resources for the Future—purely scientific research? Acquisition of natural resource sites? Establishment and major support to other foundations? Others?
- 3) What additional criteria, if any, should be used in evaluating and selecting both direct research and grant projects?
- 4) What useful ways other than those already mentioned can be found for proceeding with exploratory studies?
- 5) Should Resources for the Future seek to work cooperatively with other foundations in exploring problems?

In addition to the big and comparatively-unexplored field of energy, Dr. Gustavson said last month that he is keenly interested in patterns of watershed cooperation and asked, "Why don't more of these programs actually get off the ground? There have been studies upon studies and yet in many cases nothing ever seems to happen."

Resources for the Future may be able to be of some assistance in this field by providing experts to work with local committees and possibly establishing pilot plant studies. One immediate possibility, he thinks, is a comprehensive objective study on the various types of watershed program now in existence, including the Muskingum Watershed Conservancy District and others.

"This matter of watershed development seems to be a field in which we become divided by our ideolo-

gies," Dr. Gustavson commented. "We've got to get these people united and working together. As somebody once appropriately remarked, 'Ideologies divide, projects unite'."

It is also no secret that Dr. Gustavson is much interested in forest genetics and the fact that today there is only a handful of first-rate forest geneticists in the nation. He would like to see more of them as soon as possible, which possibly means a series of forthcoming fellowships as well as aid in basic research.

In fact, the whole forestry field is one Dr. Gustavson finds extremely interesting and vital since it is so closely tied in with soil, water, wildlife, and other resources. But if we interpret his convictions correctly, he would like to see a greater fundamental biological advance in this field—one that would exclude all forms of negativism—and which would accelerate the admitted advances in cooperation in recent years.

"Garbage is another problem that probably deserves our attention," the doctor observed. "Yes, it's a big one. It pollutes rivers, lakes, and oceans. When burned, it creates smogs. But more important than that, garbage has a real resource value when converted into fertilizers and returned to the land. Holland, for example, has conducted some most interesting work along these lines and found that garbage contains quantities of cobalt, molybdenum, boron, zinc, copper, manganese and other properties. And you people in forestry, of course, know what was done with zinc in connection with the tung trees (source of tung oil) in Florida."

Anyone who talks with Dr. Gustavson for an hour or more quickly learns that he is primarily interested in facts and deplores all forms of propaganda as applied to allegedly factual studies and reports. The word "objectivity" is one that he uses frequently and one suspects that the staff he collects and the organizations to which he contracts specific missions had better have plenty of that important quality, or else. An adroit questioner, he has the habit of turning the tables on people who come to question him, and you can sit there and watch him filing away the answers in a neat and orderly mind after first discarding any overtones of emotionalism, prejudice and other human frailties.

In a word, Dr. Gustavson is a thinking man and he has suddenly found himself plumped down by The Ford Foundation in a new and complex field—resources—just to think.

This doesn't mean that resources hasn't had, and still has, plenty of thinkers in the ranks. It has, and most of them are extremely able men. Also, most of them have confined their activities to just one or more of the phases of the whole resources pattern.

In the case of the captain of the Resources for the Future team (and those he will gather around him), on the other hand, we have an example where good minds are being invited in to examine our whole resources fabric—national and world-wide—in terms of the whole. This is something new. It could point toward a new age of reason in the whole resources world. What does it mean when the people behind this program speak in terms of doing the

same thing for resources other foundations did for medicine? It means the application of reason and the spirit of true scientific inquiry to a big sprawling field in which all too often these factors have been sadly lacking.

As the head man of Resources for the Future, Dr. Gustavson can, and probably will, have a profound impact on the resources world in coming years. At the same time, one can't help but feel that he is already a lonely man in a lonely job. It is not always easy to say "no" to hundreds of fine people who believe implicitly in their particular resources missions. It is not always easy, in searching for the *big answer*, to be misinterpreted by those who are interested only in the little ones.

The Dust Blows Again

(From page 12)

"Ain't so," he says. "Southeast Colorado agricultural, livestock and business economy is a stable one with a foundation of irrigated and non-irrigated lands regularly producing year after year crops and livestock sufficient for local and export to such an extent as to provide a consistent growing economic area."

Why tackle a problem of "adverse publicity" like this? What difference does it make to Colorado and neighboring states? Lamar businessmen William E. Quinn, Bill N. Brown and John Alexander reflect this view: Residents of southeast Colorado live there by choice and justifiably have a genuine pride in their homes. Four years of drought depleted the ability to grow sufficient crops to mulch the soil and keep it from blowing. After a mild winter, the February 65-mile an hour winds, not common to the area, cut the top soil loose. This condition hastened the necessity to work out a program in nonirrigated sections for the safest, most profitable use for the land, taking into account the average moisture and soil capability. They agreed this problem can and will be solved and one of the nation's most important producing areas again will be in balance for agriculture and livestock.

Business and soil conservation leaders from the drought-plagued Baca county area have launched an effort to get restrictions on wheat planting removed to permit farmers to get a wheat cover on the vast wind-eroded acreage.

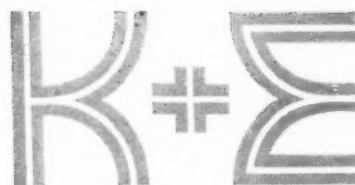
An on-the-spot check of the region shows:

Most people refer to the February 19 blizzard as being the storm which focused attention to the seriousness of the wind erosion problem for southeastern Colorado as well as surrounding states. Following the February 19 storm, the area had five days of extremely high winds with the result that many thousands of acres of cultivated as well as range land suffered heavy damage.

Reactions of people were varied, but generally most everyone felt it would take unified effort on the part of landowners to control the situation, and some would need financial assistance before they could cope with it.

The storms did mean immediate economic loss to most southeastern Colorado farmers and ranchers through the loss of crops, damage to grass, fences and some water facilities. The immediate economic loss was not confined to dry land agriculture. Irrigated farms suffered damage to crops, land and irrigation ditches and facilities. In addition, many roads were blocked by blowing dirt which required immediate county expense to open school and mail routes.

Prospects are nil generally for an overall profitable wheat crop and are becoming more discouraging by the day for summer cash grain crops. Except for three days, the wind had blown daily up to mid-June and had almost exhausted the top soil moisture.



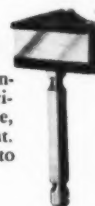
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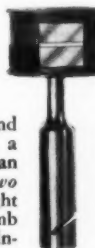
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This instrument gives a slightly larger field of view and is adjustable. As an added feature, a small plumb bob is conveniently stowed in the handle.



THE DOUBLE RIGHT ANGLE PRISM

Consisting of two ground pentaprisms separated by a plano-parallel element, it can be placed on a line between two points and a third point at right angles can be sighted. A plumb bob can be attached or the instrument can be mounted on a staff.



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What is the next step in this long struggle? The soil again must be cemented to fight against the winds that will return. A long-range program of converting burned-out crop lands to grass is needed to end erosion.

Emergency drought control measures consist chiefly of deep listing and chiseling the soil with special plows to turn up wind-resisting clods. They are good only sometimes for a few days. When the wind blows across an open field, dust is sure to result. Contour plowing, strip crop-

ping and other approved farming methods normally are effective and even in present time help to control, but do not entirely prevent, dust conditions from developing.

Solution to the problem is not easily discernible, even to conservationists. Main need seems to be moisture and plenty of it. Proper tillage will help if the soil is in shape to receive it. Colorado has passed a state law requiring proper tillage.

And the winds continue in Colorado's dust bowl. . . .

South Dakota Wonderland

(From page 19)

esting cave of box-formed crystals and containing a bison preserve. And on the northern edge of Custer is Mt. Rushmore.

The Black Hills, incidentally, offer a range in altitude from 3000 feet in the foothills to more than 7000 feet.

Climate is up to you. In the summer, it's quite pleasant. In the winter, it sometimes gets too rugged for most of us.

There are two massive national forests in the Black Hills area—Black Hills and Harney.

You'll want to be sure to view the sights from Harney Peak which, with an elevation of 7242 feet, is the highest point east of the Rockies.

The people of South Dakota are generally quite friendly toward the tourist and are usually ready with the "helpful hint" as to where to go and what to see, and especially what routes to take.

For the fisherman, there are some 700 miles of streams, stocked with

trout, and wayside picnic spots are too numerous to count.

Of course, the vacationer wants to see some "real Injuns," and colorfully clad—but quite "up-to-date"—Indians strut their stuff in the reservations and in all parades, rodeos, and similar South Dakota events.

One of the more interesting sights in South Dakota is that of Skyline Drive, overlooking Rapid City. There huge figures recreate the prehistoric monsters which once roamed the big Badland country.

South Dakota may not be the top tourist state in the nation, and does not feature a lot of things you may be looking for for your vacation—like the ocean, beaches, diversified fishing areas and others. But it does offer some magnificent scenery and the color and unmatchable awe of the "old west." It's worth marking down on your "must take" trip list.

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SAF Meeting

Delegates to the annual meeting of The American Forestry Association at Portland, Oregon, September 6-9 are invited to attend a special meeting of the Columbia River Section, Society of American Foresters, Wednesday night, September 8, at 7:30 p.m. Acting as host to the visitors from every state in the union, the Columbia Section has planned a special program dealing with forestry problems in the Northwest.

The Vigilant Season

(From page 17)

and one that should spark up the whole program.

Started in 1942, the Cooperative Forest Fire Prevention Program has now been adopted by every segment of American society and spearheads the national effort to cut down on appalling annual fire losses. Encouraging progress has been due in large part to the splendid support which American business, state Keep Green programs, Red Cross, Boy Scouts, Girl Scouts, Camp Fire Girls, 4-H Clubs, Federated Women's Clubs, Izaak Walton League, forest industries and numerous other groups and organizations have given the program. In 1953, American business contributed over seven million dollars' worth of free advertising time and space in support of the Smokey Bear Program.

Smokey, one of the most popular figures in public life today, can now be seen in any town or city deliver-

crease of 23,306 fires a year as compared with pre-campaign figures. This result has been achieved despite the fact that public use of forested areas has increased 100 percent over pre-campaign levels.

Attending the presentation were representatives of the National Association of Manufacturers, American Forest Products Industries, The American Forestry Association, Red Cross, Boy Scouts, Girl Scouts, National Board of Fire Underwriters, National Fire Protection Association, Sports Fishing Institute, National Wildlife Federation, Associated Tobacco Manufacturers, National Park Service, Bureau of Land Management, National Lumber Manufacturers Association, Society of American Foresters, National

Commission on Safety Education, Institute of Life Insurance, Izaak Walton League, Saturday Evening Post, Columbia Broadcasting System, White House, Forest Service, and State Foresters from North Carolina, Kentucky, and Colorado.

Members of the CFFP Executive Committee include State Foresters Fred Claridge of North Carolina, Everett Lee of Colorado and Harrod Newland of Kentucky, James Diehl of State and Private Forestry, Bryon Beattie representing Gustafson of Fire Control, and Dana Parkinson of Information and Education, Chairman of the Executive Committee. Following the presentation meeting, the Committee met in several sessions and completed the plans for the 1955 CFFP Campaign.

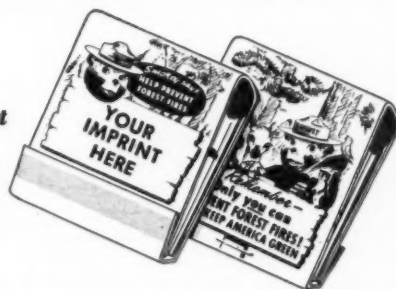
THE 34TH ANNUAL meeting of the National Conference on State Parks will convene September 12-16 in the state of Washington, according to an announcement by Harlean James, executive secretary. The group will meet in Spokane, then drive across the state to the Olympic Peninsula where sessions will be held in Lake Crescent Lodge.

ing his fire prevention message from posters in street cars, on trucks and buses, on bulletin boards and in the woods. Radio and television have taken him into millions of American homes. More recently an array of Smokey toys, coloring books, handkerchiefs and similar items, all with a fire prevention message, have appeared in department stores across the country as authorized by Congress. Last year over 250,000 Smokey teddy bears in three sizes were sold to boys and girls from one end of the country to the other.

While present prevention programs still have a long, long way to go, there can be little doubt that present efforts are making gradual progress. For the five-year period prior to 1942, there was an average of 205,047 forest fires a year in the United States. For the past five years there has been an average of 181,741 forest fires yearly or an average de-

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Texas National Forest Study

(From page 37)

Actually, the broadening of the scope of the original act of 1911 to include lands for the growing of timber, not necessarily for watershed protection, had been approved by the Congress on June 17, 1924 and applied extensively in the Lake States as well as the South with the legal consent of every state affected. The amendment of section 6 of the Weeks Act was incorporated in the Clarke-McNary Act of that date, section 2, of which reads: "That section 6 of the Act of March 1, 1911 (36th Statutes at Large, page 961) is hereby amended to authorize and direct the Secretary of Agriculture to examine, locate, and recommend for purchase such forested, cutover, or denuded lands within the watersheds of navigable streams as in his judgment may be necessary to the regulation of the flow of navigable streams or for the production of timber, and to report to the National Forest Reservation Commission the results of such examination; but before any lands are purchased by the Commission, said lands shall be examined by the Secretary of Agriculture in co-operation with the Director of Geological Survey, and a report made by them to the Commission, showing that the control of such lands by the federal government will promote or protect the navigation of streams, or by the Secretary of Agriculture showing that such control will promote the production of timber."

It is possible that the authors of this attack on the constitutionality of the East Texas land purchases were ignorant of this Congressional Statute?

The next statement is that these

forests have not yet operated at a profit and show an 18-year operating deficit of \$2.9 million, although, they state, the 1953 income was in excess of expenditures and should continue this way. This assertion of a deficit emanates from businessmen versed in the principles of accurate accounting, the making up of balance sheets, and the distinction between capital assets and investments on the one hand and operating expenses and profits on the other. Yet, into this operating deficit of \$2.9 million they have put the entire cost of acquiring the land, all the improvements, and the capital costs of management for producing timber on land sold to the government as cutover for \$4.62 per acre.

Ninety percent of the area was sold by 11 companies who had no further use for the land, considering it to be denuded. That some of these companies were wrong in this opinion does not change this fact. Yet, in Exhibit F it is shown that "Investment Accounts" alone, total \$2,942,566, while "cost of land," a capital account is \$3,016,593; these two capital items totaling over twice the entire stated "loss" in operation, to which loss is then added acquisition and survey costs of \$750,000. But to make up the total "cost" of \$14,488,507, from which actual case income of \$11,573,775 is deducted to get this \$2.9 million loss, these accountants have added in as a cost the item of 25 percent of gross income granted to the Texas counties for schools, which alone amounts to \$2,634,184 and equals the "operating loss." One might ask, is it customary for corporations to regard dividends to stockholders as *operating losses*? They are usually paid out of net operating profits—but not in this accounting. When, as another item of cost is added, the forest highway improvements—that would otherwise be a cost to the counties—this unique balance sheet of the East Texas industrial computers reads: receipts (correct), \$11,573,755; expenditures, operating (correct), \$4,425,722; capital investments, \$6,709,159; "dividends", \$3,353,626; total, \$14,488,507.

The corrected balance sheet, conforming to statutory provisions for corporations, shows: receipts, \$11,573,775; expenditures, \$4,425,722; net operation profit, 22 years, \$7,148,053; as against a claimed "loss"



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of \$2,914,732, giving a total error of \$10,057,785. And this doesn't take into consideration the value of the timber that is grown on the land and which is being held for future harvest.

Again, it seems somewhat naive to stress the fact that 65 percent of the gross receipts from these forests "goes to Washington," as if this were depriving the counties of that amount when it has just been "shown" that the federal government's investments and operating costs expended for the benefit of these counties, exceeds the entire income by \$2.9 million; equivalent to a "return" to and within the counties of 125 percent of income. Akin to this figuring is the statement that the rest of Texas pays for this subsidy—presumably through taxes to the federal treasury, as its share of the cost of habilitating the national forests as a going, profit-making concern, which it now is.

The accountants now encounter a really formidable fact to be dealt with. Had the 25 percent grant to the counties over the 22-year period of rehabilitation and restoration of the forest growth fallen short of the taxes which these counties would have received had the land been privately held and assessed, there would certainly have been an outcry. But the facts (again accurately stated) showed that instead (p. 13) the government returns to counties realized from 25 percent gross income from these "cutover lands," amounted to 22.2 cents an acre per year since 1936, and the tax revenue based on private ownership and tax rates would have been 15.9 cents, so that the counties, as the result of 18 years of federal management, were the gainers by 6.6 cents per acre annually. Nothing daunted, the claim is made instead, that this excess payment is a positive injury to private owners inciting county officials to raise taxes on private timberlands to match the federal record. When the facts do not bear out one argument, another must be found to take its place. In no case has this report attempted to distort or misrepresent statistical facts. From the standpoint of modern propagandist tactics, it thus exposes itself to analysis within its own structure.

Another rather startling exhibition of the lack of expert propaganda in this report is found in Exhibit P, p. 58, where the rural population trend in 11 counties containing from 3.61 to 31.0 percent (average 12.43 percent) of national

forest land respectively is shown for the decade 1940-1950 as a loss of 21.6 percent. Then in the same exhibit, the percent decrease for these years in 13 other East Texas counties having no national forest land, is given as 24.6 percent. Why should not these facts be interpreted as a *gain* of three percent, over the latter counties, obtained by the existence of national forest areas occupying one-eighth of the total area of the counties concerned, or a ratio of 8 x 3 percent, or 24 percent gain, for the entire area as a possible effect of restoration of the timber crop on the national forests. Which is the goose, and which, the gander?

But perhaps the greatest incongruity in this report lies in the estimate of the sale value of the federal property, put at anywhere from \$50 million to \$100 million, and capable of yielding on a tax rate of three-fourths of one percent from \$475,000 to \$500,000 per year, in taxes—this after the fateful balance still had put the "loss" at \$2.9 million!

It is legitimate and well within the purport of this study to criticize various policies of the government and point out possible improvements. To cite these same criticisms as justifying demolition of the Texas national forests is a horse of another color. For instance, the timber sales of these forests are analyzed, Exhibit M, as consisting of 3149 sales for \$500 and under, and 496 for over \$500, of which 242 were for over \$5000 each. In Exhibit N these "large" timber sales are shown to include, by years 1948 to 1953, from 75 to 91 percent of all timber sold, showing that these substantial percentages went to large established concerns, while only the residue was obtained by small operators who represented 96 percent of the purchasers. The arguments are then marshalled against the policy of making these small sales to persons who do not have to conform to the wages and hours law, and who can therefore underbid the large operators. The deduction is drawn that as the result of this policy and of competitive bidding, or "throwing bones to a pack of dogs," no progress can be made toward stable operations or community developments. The issue really depends on an economic interpretation of "the greatest good to the greatest number in the long run," and applies as well to grazing on the western national forests. It does not constitute a valid basis for selling off these Texas forests to large timber operators.

(Turn to page 63)



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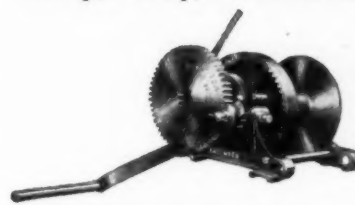
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Reading About Conservation

By **ARTHUR B. MEYER**

The National Parks: What They Mean to You and Me by Freeman Tilden (Alfred A. Knopf, 324 pp., \$1) is a paper back second edition of a book first published in 1951. It is timely reading in a season when Americans by the millions descend upon our national parks. But beyond that the book would be timely reading anytime. It is a guide to the national parks in the sense that if you are, for instance, visiting Yellowstone you can find in the section on Yellowstone a goodly bit of information about that park, including items from its history. "Thank you but we do not print fiction," wrote a magazine editor in 1869 to a contributor reporting on his visit to the "little-known mountain wilderness that lay south of Montana Territory." After all, a vent in the earth that erupted tons of water every time the clock ticked off an hour! The visitor to the Everglades may in turn find expert guidance in interpreting the nature of our Savor of the Tropics.

But *The National Parks* is considerably more than a tabulation, varying in completeness, of the physical facts about our national parks and those national monuments that preserve scenic or natural features of outstanding value. It is a skillfully written book that will acquaint the reader with the physical facts about the parks and also with what they represent as a national heritage and a means for promoting our understanding of the natural world in which we live. Our citizens are offered an experience through our national parks that they can get nowhere else in like degree. "It is the opportunity to leave behind the world of toil and noise, of factory and grind, of the artificial and the tense, of humdrum and the deadening sense of unfulfillment, these being the lot of the denizens of a modern world, whatever advantages that world may offer."

The book is not devoted to uplift. It is, in fact, entertainingly and often humorously written but it succeeds

in putting across a lesson without advising the reader, "here is your lesson." In so doing it illustrates what is probably the greatest value of our national parks. The author himself explains this value by saying: "Very few persons visit the national parks to study. They do not want to take a course in botany or geology. They want to look . . . idle, browse . . . go horseback riding, take pictures . . . and forget their routine existence . . . that is all they think, at first, they want. But almost all of them find that it is not enough . . . Nature holds out a hand. There are few who do not grasp it."

We can be proud of a nation that has had the foresight to preserve for us these national parks, these framed pictures of the land that America was before we came. Mr. Tilden has seen their beauty, grasped their significance, and most ably tells what they mean to you and me.

Wildlife Conservation

Biological Conservation with particular emphasis on wildlife by John D. Black (The Blakiston Co., 328 pp., \$5) is a textbook for college level beginners in the subject of wildlife conservation. Dr. Black is a college professor in the science of zoology, which shows up in careful organization of the book and the sure hand with which he writes in the field of biology. The range of coverage is indicated by the six parts into which the book is divided: Basic Considerations, The Environment, Fish and Other Aquatic Animals, Birds, Mammals, and Solving the Problem. The appendix offers an annotated bibliography, and also the rather unusual feature of a guide to educational films related to wildlife conservation, an inclusion that should be helpful to teachers.

There is a great deal of factual information in this book and it gives the reader a survey of the nature and status of our wildlife resources which is not restricted to game species. The author, however, is a little hard to follow once in a while. This may

be partly due to the breadth of the field, which limits too much detail, or to the various categories under which individual species are grouped. These categories are based upon economic and other considerations rather than the biological relationship of the species. But, for instance, in the section dealing with mammals there is a chapter discussing fur bearers. In this chapter he tells of the near extinction of the fur seal and then goes on to relate international efforts for its restoration, ending with the statement that "it is easy to see that the future of the fur seal is safe as long as we continue to regulate the harvest of the animal in an intelligent way." In a following chapter, though, he discusses seals, walruses, and sea elephants. He says: "Greed more than any other factor wiped out the sealing industry. The addition of the rifle and shotgun to the hunting equipment of the Eskimo has not been wise. It can only result in further destruction of the northern mammals and ultimately culminate in starvation for the Eskimo." The reader can appreciate that he (the reader) doesn't have enough facts to say that there is a contradiction involved, but wonders what he has missed or not been told.

In a somewhat like manner the author makes the statement that "natural, balanced stream systems rarely flood." He then goes on to point out that the Mississippi Delta proves that floods have always been with us, but adds that they did not in the past reach the extremes characteristic of them now (plus the fact that "the valleys were not packed with human habitation as they are now").

Admittedly, the quotation of brief passages out of context can be unfair to an author. The point involved here is that the reader is occasionally confused, at least I was, and that the author allows himself to editorialize quite a bit without providing the reader with enough background to judge the pros and cons of the matter on which the author is presenting his opinion. The textbook was written to orient beginners.

In another case, and with full warning to the reader in his preface, the author attaches blame and suggests solutions to various unhappy segments of the wildlife and general conservation picture. This is, of course, his perfect right. The blame is most likely properly directed, and

the solutions quite legitimate possibilities, but the reader gets the feeling that here and there he can detect the calamity howler's approach. Without taking issue with the calamities that have befallen the resources of this country nor the calamities that seem to loom in the future, it is suggested that, especially in training new conservation workers, a positive approach is better than a negative one. Our fathers and grandfathers did not have the benefit of our scientific progress, nor of hindsight. Those who cry over spilt milk are generally slow to mop the floor. Let's start the youngsters off with a zeal to push forward the frontiers of their work, not with the (quite human) attitude of "look what we've been left with."

Dr. Black lists three main problems facing conservationists: (1) The interference of political consideration with the work of many conservation programs, particularly state and local ones. (2) Public education. (3) The matter of divided authority. He concentrates on divided authority in his suggestions as to what should be done. He favorably considers, as do many, the creation of a federal Department of Conservation. He says that "an important part of such departmental organization would be the *complete exclusion of all other departments from participating in conservation activities, and the requirement that all activities affecting wildlife, water, soil, forest, and grassland resources must first clear through this department.*" (Italics are the author's.)

Nobody could argue that the federal government's activities dealing directly or indirectly with resources conservation could not be better organized and co-ordinated than they are. Whether such integration comes

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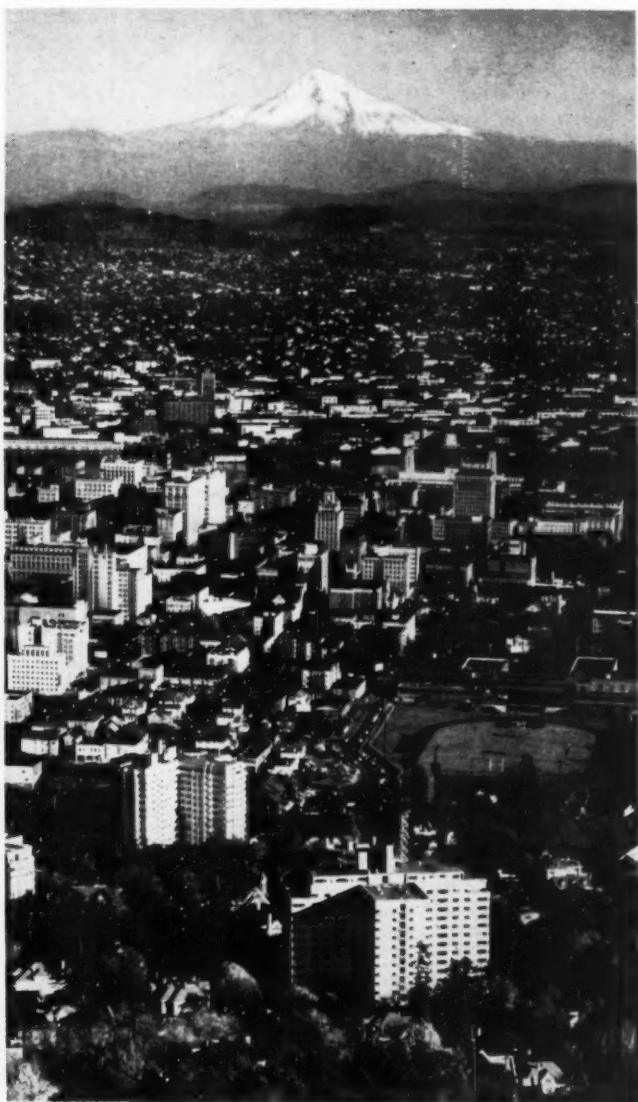
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through the creation of a Department of Conservation or by other means is a matter receiving serious thought by many people. But should the final solution be the creation of a Department of Conservation, surely Dr. Black would not seriously urge the exclusion of all other departments from participating in conservation activities. The job is too big for just one agency, too big for just the federal government, or just government. It needs the consideration of every individual citizen and his government in all of its activities all of the time.

In *Biological Conservation* the reader will doubtless sense the complexities of the task of conserving our resources and of how wildlife is an integral part of those resources. He will grasp the range of the necessary technical fields of knowledge involved. He will also sense that—as long as people are people—economic and political considerations as well as scientific ones control how we handle our natural resources. It is a

SEVENTY-FIVE members from 20 states had signed up as of August 1 for AFA's Conservation Caravan that leaves Chicago August 30 for the Association's Annual Meeting in Portland, Oregon. Meanwhile, riders are continuing to sign up for the junket at the rate of two or three a day.

good sign to see scientists coming out of their laboratories and expressing opinions on how their field of science fits into everyday life. The reader may not agree with all of the professor's opinions, as the professor suggests in his preface, but Dr. Black can stimulate a person to think. That, I am sure, he would propound as the first duty of an educator.

Gray's Manual of Botany, "largely rewritten and expanded" by M. L. Fernald (American Book Co., 1950, 1632 pp., \$9.75) needs no introduction for anyone who has been concerned with the identification of flowering plants and ferns of the central and northeastern U. S. This is an eighth edition. The first Asa Gray's *Manual of the Botany of the Northern United States* was published in 1848. Since that time "Gray's Manual" has been an authoritative textbook for the serious botanist. This edition covers more than 8000 species, varieties, forms, and named hybrids.

Letters

(From page 3)

virgin timber only recently acquired by the Park from the state of Montana.

The question of inundating park areas has been much in the news of late, but no proposal to date has threatened an area comparable to western Glacier Park. This is what Mr. Metcalf is doing with HR 6687. The bill would require the Secretary of the Interior to start new studies of the dam, thus reviving a project that most Montana people felt was safely buried two years ago.

It is particularly interesting to note that Mr. Metcalf's statement of the question to be decided by the study makes no mention of conservation or wildlife. Instead he says on page A4893 of the Congressional Record, July 28, 1953, that "the question to be decided, as to its feasibility, must be answered in terms of the economy of the region in which the project would be located; whether such a plan would disturb the present economy of the area; whether it would bring further opportunity and security to the people of north-west Montana, and whether such opportunity and security would ultimately benefit not only the rest of the people of the state of Montana but of the Nation in developing our entire economy."

No mention here of what would happen to the Glacier elk herd that uses this valley as its feeding ground. No mention of the 10,000 acres of virgin timber wilderness that were saved from logging by the recent transfer to the Park Service.

A search of Metcalf's record reveals that this potentially destructive bill is the only legislation bearing his name that has any relationship to wildlife or conservation. Not one constructive conservation measure has been introduced by this man. His service on the Committee on Education and Labor is far-removed from these fields of legislation.

Gilbert LeKander
Alexandria, Virginia

Central Park

EDITOR:

... Creighton Peet's interesting article on Central Park points effectively to the vital role such open spaces play in maintaining the health and happiness of our city dwellers. He discusses a number of the dangers threatening this great park, but does not mention one of the most serious—lack of sound administrative policies designed to protect the park from the impact of human use.

In the January-March, 1953, issue of National Parks Magazine, Mrs. Rosalie Edge, chairman of the Emergency Conservation Committee, wrote an article "Central Park—Blue-Print of Erosion," pointing to this problem and urging that school and civic groups cooperate to restore fertility to the soils of the park.

Any of your readers who would like to read this article may have a reprint of it on request by writing the National Parks Association, 2144 P Street, N.W., Washington 7, D. C.

Fred M. Packard
Executive Secretary
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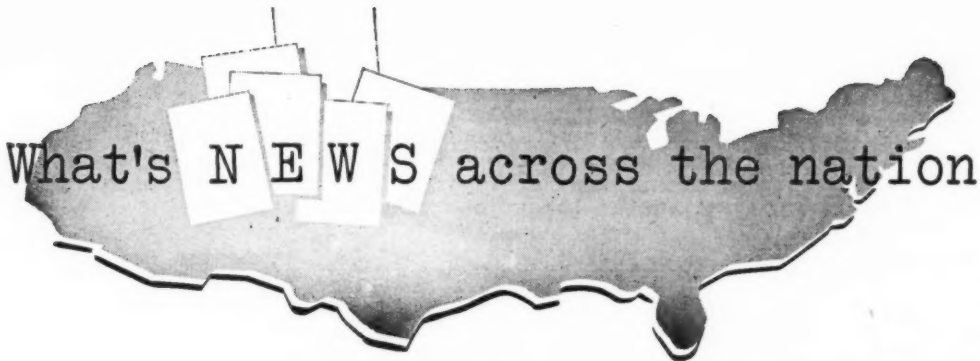
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What's NEWS across the nation

FIELD WORK ON SUBSTANTIALLY ALL PHASES OF THE TIMBER RESOURCES Review has now been completed, Richard E. McArdle, Chief, U.S. Forest Service, informed members of the TRR National Advisory Committee last month. Participation by a great many individuals, companies, organizations and states in carrying out the project has been "most gratifying," Chief McArdle reported. Only holdup was in connection with the survey of cutover lands where some problems have arisen. Consequently, field work for this phase of TRR was continuing last month in a few states. Compilation of statistical material and checking and preparation of summary statistics and tables will now occupy the time of the TRR team until late fall or early winter. The interpretation of the facts gathered and the writing of the TRR report will follow after that, Chief McArdle said. With completion of field work, the Forest Service has begun to receive a large number of requests for preliminary or confidential release of information relating to a particular part of the country or dealing with a particular phase of the review, Chief McArdle said. In general, these requests are being refused as the Forest Service has a commitment with the National Advisory Group not to release statistics in advance of review by the national advisors.

RELEASE OF A NEW PUBLICATION, "FOREST DISEASES AND INSECTS OF GEORGIA'S TREES", was announced last month by the Georgia Forestry Commission. Extensively illustrated with detailed photographs and drawings, the 40-page booklet was designed to provide helpful information to the forester, the forest landowner, and the homeowner. Three University of Georgia professors wrote the book. They are L. W. R. Jackson, School of Forestry; G. E. Thompson, Department of Plant Pathology; and H. O. Lund, Department of Entomology. Copies may be obtained from the Georgia Forestry Commission, State Capitol, Atlanta, or from the Georgia Extension Service, Athens.

TWO FORESTRY BILLS LABELED THE MOST IMPORTANT FORESTRY LEGISLATION in Louisiana since 1910 were passed by the state legislature in June, according to R. H. Crosby, president of the Louisiana Forestry Association. One bill outlaws the roaming of hogs in the piney woods while the other sets up an entirely new method of forestry taxation. Crosby said the forestry taxation bill, by far the more controversial of the two measures, was drawn up as a Constitutional amendment to be voted on by the people this fall. It provides that trees shall not be taxed until cut and sets up four classifications of timber lands for assessment purposes. These are cypress, hardwood, longleaf pine and other pine.

THE WESTERN PINE ASSOCIATION'S FULL-COLOR 16 MM. DOCUMENTARY FILM, "The Bounty of the Forest," was recently awarded two "Oscars" by two of the nation's top film festivals. The film won an Award of Merit from the Film Council of Greater Boston and the Film Council of Greater Columbus (Ohio) during recent competitive festivals. To date, the film has had 2000 showings in the country.

THE ONLY WOMAN ON THE RESEARCH STAFF, DR. SONJA K. GROSS, has been appointed research assistant in forest chemistry at the State University of New York College of Forestry. Her appointment was announced last month by Dr. Edwin C. Jahn, associate dean for physical sciences and research. Dr. Gross graduated from the Massachusetts Institute of Technology in 1950.

(Turn to next page)

A 10-DAY COURSE ON THE CARE AND USE OF LARGE AND SMALL TRACTS OF LAND will be included for the first time in the curriculum at the Edith Macy Training School, the national Girl Scout adult education center at Pleasantville, New York. The course started July 24 and concludes August 4. According to Miss Marie E. Gaudette, of the national staff of the Girl Scouts of the U.S.A., who is in charge of the course, the theory of land management can be applied to backyard landscaping as well as to larger stretches of land.

THE SOUTH NOW HAS ITS OWN REGIONAL FOREST GENETICS CENTER. It is the Southern Institute of Forest Genetics at Gulfport, Mississippi, officially established by the U.S. Forest Service on July 1. The new center is the outgrowth of a cooperative study by the Forest Service and the Forest Farmers Association, of Atlanta, Georgia, on how forest genetics activities in the South might best be furthered.

DR. CHARLES C. LARSON, RESEARCH ASSISTANT IN FOREST ECONOMICS at the State University of New York College of Forestry, has been awarded a Ford Foundation grant to study forest resources in the Middle East and Southeast Asia. Dr. Larson, who will introduce a course in World Forestry at the College next semester, will leave on a round-the-world trip in January. The purpose of Dr. Larson's study is to become acquainted with the forestry problems of the countries in the Middle East and Southeast Asia, and to study the foreign programs with special emphasis on education and research.

ELWOOD L. DEMMON, DIRECTOR, SOUTHEASTERN FOREST EXPERIMENT STATION of the U.S. Forest Service, president of the Society of American Foresters, and a director of the AFA, in June was awarded the Distinguished Alumni Service Award at his Alma Mater, the University of Michigan. He is the first forester to receive this award in Michigan's history, according to Joseph J. Brady, president of the Alumni Association.

THE DEPARTMENT OF FORESTRY AT THE PENNSYLVANIA STATE UNIVERSITY became the School of Forestry on July 1, according to President Milton S. Eisenhower. Maurice K. Goddard, head of the Department of Forestry, has been named director of the school which will continue as a part of the College of Agriculture.

A FOUR-YEAR PROFESSIONAL FORESTRY SCHOOL TO DEVELOP THE POTENTIAL of Mississippi's 16½ million acres of timberland has been approved by the board of trustees of Mississippi State College, President Ben Halbum has announced. All leaders in forestry in Mississippi are united behind this curriculum and active in sponsoring it, President Hilbun said. The Mississippi Forestry Commission, the Mississippi Forestry Association, the Delta Council, the Soil Conservation Service, and the industrial foresters of the state all endorsed the project.

FAILURE TO USE PRESSURE TREATED WOOD IN CONSTRUCTION OF ALL KINDS as well as for fence posts costs the American people about 200 million dollars a year, according to the American Wood Preservers Association. Pressure preserving treatment, which prevents wood decay, could prevent most of this staggering loss, the association states. U.S. Forest Service figures show that one-fifth of the annual cut of lumber is needed to replace that which has been destroyed by decay.

PRESIDENT EISENHOWER HAS ACCEPTED THE RESIGNATION OF INTERIOR UNDERSECRETARY Ralph A. Tudor and has appointed Clarence A. Davis, present department solicitor, to succeed him. Mr. Tudor, of Palo Alto, California, was appointed Undersecretary on March 1, 1953. His resignation becomes effective September 1. Mr. Davis is a former Attorney General of Nebraska. In his letter of resignation, Mr. Tudor said that he had originally accepted appointment with the understanding that he would serve no more than a year.

TWO SCHOLARSHIPS HAVE BEEN MADE BY THE STATE FOREST RANGER SCHOOL, a department of the School of Forestry, University of Florida, at Lake City. Johnnie S. Croft, Olustee, Florida, has received the Baker County scholarship of \$780. Robert W. Peebles received the Marion County award of \$680. The awards are made annually to boys who have shown interest in forestry while members of F.F.A. or 4-H groups.

Texas National Forest Study

(From page 55)

It appears that undue concern is being manifested by large owners in East Texas over the effect of permitting small fly-by-night operators to corral from nine up to 25 percent of national forest timber annually on 648,000 acres constituting about five percent of the commercial forest land in East Texas, when 19 large operators own an average of 149,895 acres, totaling 2,848,000 acres (*Conservation Yearbook*, 1954, pages 134-138), in addition to their ability to annex a five-year average of 86 percent of all federal timber sold on this 5.33 percent of commercial timberland owned by the government, plus what they can buy from the 89,280 owners of less than 5000 acres each who possess 5,927,000 acres which they are at present free to denude if they prefer this policy. On the face of the record, these large established operators, some with paper mills, are in a very secure position for maintaining a sustained yield and permanent communities, and too much fault should not be found with the 5.33 percent of national forests for doing the best they can under existing regulations and competition. Yet, in the summary of this study, Paul F. Hursey states: "The facts suggest that it will be in the public interest to sell these lands back into private ownership interests such as to promise the best economy. The interest from the money secured from these sales may run as much as three times current net income from government timber sales."

This bland proposal is immediately qualified by recommending that each sale carry a covenant in the deed providing for continuing forestry management, keeping the lands open for hunting and fishing, and that recreational areas be donated by the government to the counties or the state park board. The Chamber wishes to assure the public that it can have its cake and eat it too.

The limits of this article preclude exhaustive analysis of further contents, in which the comparison is made of 50,000 acres planted by large consumers owning 2,848,000 acres (which figures at 1.75 percent), with 37,000 acres planted on national forests (giving 5.6 percent). These planting figures were for only eight of the 19 large companies, but are

presumed to represent, as they were intended to do, the accomplishments of such corporations as a whole.

With the factual accuracy that characterizes the report, when the omissions and interpretations are overlooked, it is shown that over six times the area was burned for every 50,000 acres of private land than on an equal area of the national forests, despite the fact that twice the number of fires started on these forests (due no doubt to intensive public uses of all kinds).

In the summary of public opinions presented, those in favor of the national forests emphasized the recreational and hunting provisions, opposition to big industry, lack of understanding of the functions of private industry and "misconceptions" as to the income of the federal lands. Government ownership was favored by county officials because of higher current returns.

While industry in general was opposed to government ownership for various reasons, "the national forests didn't seem to be recognized as business institutions, though their main activity in Texas centers on timber sales."

Among arguments against the national forests we find the (admitted) slowness of legislation and administrative changes in public agencies that the national forests are run at a deficit!—"for which the whole nation pays"—that they are "competitive" business enterprises—that returns to the counties are *greater* than taxes! And (shades of our Forest Service chiefs) that the national forest administration depends on the political party in power! And finally (amongst others), that 65 percent of the sales receipts is returned to Washington "instead of staying in local counties or going to the state treasury" (with Uncle Sam footing the entire bill of costs).

It is the understanding of the author that copies of this publication are not readily obtainable. Perhaps, in hindsight, this Chamber of Commerce may have its doubts about the effectiveness of its contents and arguments. In this opinion they will have to do better than this before convincing the general public, or even all of East Texas that their proposals are sound.

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Feature Photo of the Month

Photos used on this page will be of unusual rather than esthetic qualities and subject matter will be restricted to scenes, events, objects or persons related to the use, enjoyment or unique aspects of our renewable natural resources. For each picture selected AMERICAN FORESTS will pay \$10.

Enterprising farmers in western Illinois once made fences by twisting oak saplings together to form a crude barrier. In many instances, the saplings kept right on growing, entwining themselves into peculiar shapes such as this one

Photo by Max Hunn





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July 5 to July 16; July 16 to July 27
\$215 from Missoula, Montana. Parties limited to 25

QUETICO—SUPERIOR WILDERNESS, MINNESOTA Canoe Trip

July 10 to July 19
\$195 from Ely, Minnesota. Party limited to 15

SHOSHONE—YELLOWSTONE TRAIL, WYOMING

July 20 to July 30
\$215 from Cody, Wyoming. Party limited to 25

MAROON BELLS—SNOWMASS WILDERNESS, COLORADO

July 21 to July 31 and August 3 to August 13
\$215 from Glenwood Springs, Colorado
Parties limited to 30

WONDERLAND TRAIL, MT. RAINIER NATIONAL PARK, WASHINGTON

August 15 to August 25
Cost \$210. Party limited to 25

HIGH UINTAS WILDERNESS, UTAH

July 26 to August 5
\$215 from Vernal, Utah. Party limited to 26

SAWTOOTH WILDERNESS, IDAHO

July 27 to August 6 and August 10 to August 20
\$205 from Sun Valley, Idaho. Parties limited to 25

SAN JUAN WILDERNESS, COLORADO

August 13 to August 23 and August 28 to September 7
\$215 from Durango, Colorado. Parties limited to 25

GLACIER PEAK—LAKE CHELAN, WASHINGTON

August 26 to September 6
\$215 from Wenatchee, Washington. Party limited to 25

SEQUOIA—MT. WHITNEY WILDERNESS, CALIFORNIA

August 25 to September 3
\$210 from Lone Pine, California. Party limited to 20

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Write or wire for detailed information itineraries, and reservations.

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